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KODACHROME JAY WILLIAMS

Railnews

AMERICAN COAL ENTERPRISES' C&O 4-8-4 614T has a clear order board at MD Cabin at Meadow Creek, W.Va., on January 23, 1985, with 30 loads of coal in tow. Instrumented with sensors feeding recording equipment in the crew car, the 614T spent the entire month of January working between Huntington and Hinton gathering data for the development of the ACE 3000. See page 34.

KODACHROME MIKE SMALL

THE ABERDEEN & BRIAR PATCH put a handsome paint job on ex-SAL GP7 896 to operate the former-Norfolk Southern Railway branch from Aberdeen to Star, N.C. The 896 is shown here backing down to the SR's ex-NS main line at Star on October 3, 1984.

KODACHROME: COASTLINE R.R. PHOTOS

GE 70-TONNERS are the power for two new short lines in North Carolina operated by the prosperous Laurinburg & Southern. The Red Springs & Northern uses ex-Lancaster & Chester 62 to run the ex-ACL branch from Red Springs to Parkton; the 104 was at Parkton on December 24, 1984. Another red and white 70-tonner is used on the nearby Fairmont & Western, an ex-ACL line between Fairmont and Elrod, N.C. Out in Colorado, the San Luis Central used its sole 70-tonner (below) for a fantrip in October 1984 using express refrigerator cars as coaches for the 20 hardy passengers.

KODACHROME RICHARD REIFF

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From the Publisher's desk: Photo Swapping

Before the advent of good 35mm cameras and fast color film, most railfans concentrated their efforts on black and white snapshots in one of three sizes. The earliest was the old postcard size camera which gave way during the depression era to two smaller sizes: 116 and 120. Most railfans were already aware of the need for better quality cameras in order to get sharper negatives. Many cameras were equipped with anastigmat lenses and the better ones even had shutters with speeds fast enough to stop action. Kodak's Monitor camera was as fine a camera as most fans hoped to buy and was offered in both the 116 and 120 size.

Of the two sizes, the 116 was considered vastly superior because its $2\frac{1}{2}" \times 3\frac{3}{4}"$ format was ideally suited to the photography of long steam locomotives or trolleys. The fact that the format made very poor use of the lens' overall capabilities wasn't even a consideration. It would be some years before the smaller 120 size, $2\frac{1}{4}" \times 3\frac{1}{4}"$ would come into its own. Few railfans bothered with enlargements, and the fans contented themselves with 116 size contact prints. To keep things uniform, those with 120 size cameras often made their contact prints on 116 size paper.

One of the real fun aspects of the hobby was the swapping of railroad and/or trolley photos. Even the rank beginner could hope to build up a good collection of steam photos of his favorite railroads, including many engines which had long since been scrapped or were on other parts of giant systems. It wasn't long before I was doing my own darkroom work using equipment that had been my father's. *Railroad* Magazine had a free swapper's column for fans who swapped photos and I built up good collections of Erie, Pacific Electric, South Shore and other lines which I couldn't hope to photograph myself. You soon learned who could be counted on to send you good photos in return for what you sent. You also knew who was using inferior camera equipment. The overall quality was often amazing.

The high spot of railroad club meetings could often be the photo swapping sessions going on at the rear of the room while the chairman tried to bring law and order to the meeting. Probably the most rabid photo swap sessions were held at the Electric Railroader Association meetings in New York. Some of the veterans wouldn't trade for modern stuff but had photos for sale at nominal prices, usually a dime a print. Younger readers can put that into perspective by realizing that a dime would also buy a big juicy hamburger complete with onion after the meeting.

Photo swapping was a great way to build up photo rosters of steam or traction equipment and the big thrill was to get that elusive engine that had been transferred to some far off point on the system or had been renumbered, sold or scrapped. It was something like shooting an ex-EL grey/maroon diesel today on Conrail. It was a great time to be a railfan.

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Cover

The "T" on the number plate and small television camera just to the left of the headlight are about all that give this scene away as being 1985 instead of 1950. With the thermometer hovering near zero, American Coal Enterprises' C&O 4-8-4 614T simmers the night away on January 23, 1985, at Hinton, W.Va., in the midst of a month of six-day-a-week test runs with coal trains on the C&O main line between Huntington and Hinton. The "T" stands for "Test" and "Tomorrow," for the 614T is being utilized to gather data to be used in the design of a new generation of coal-burning steam locomotive. The story unfolds on page 34. Kodachrome by Jim Boyd.

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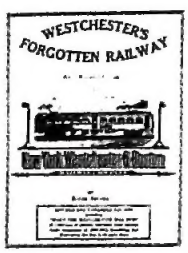

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Fanmail

Cub fan?

How dare you imply in the RAILFANNING IS: of the January 1985 issue of R&R that any self-respecting railfan would waste away a picture-perfect day in Wrigley Field? Any genuine Chicago baseball/railfan knows you spend your *afternoons* chasing trains and *evenings* at Chicago's real baseball park (and America's oldest), Comiskey Park.

Heck, even if my beloved White Sox are getting clobbered, I can get a great upper deck (ramp) view of Conrail, Amtrak and other action as it rumbles past about a block west of third base, and if you get to the park early enough you can grab a hot dog as you watch from right field the evening commuter rush on the RTA's ex-Rock Island route.

A Cub/railfan? Can such a miserable creature really exist?

JOSEPH R. BRABEC
Berwyn, Ill.

You can imagine how many times I had to rewrite that RAILFANNING IS: *changing "World Champion" to "pennant-winning" to "division leading" as they pulled their historic "fold"*—J.B.

Winton and Cuisinier

In regard to Win Cuisinier's "What really happened to Winton" on page 61 of the January 1985 issue, the caption on the photo is either a misprint or the work of someone who has no idea what a diesel engine or turbocharger is. (1.) There is no such thing as a gear-driven turbocharger. (2.) All diesels that I have worked with draw air through their turbo if so equipped to start. (3.) There is such a thing as a gear-driven supercharger; this can be centrifugal compressor, as employed on the Allison V1710, the CW radials and P&W radials, or a roots blower. Cummins and Caterpillar built some of these before they went to turbos. A roots blower on a two-cycle engine, if turned fast enough, will provide boost.

The highest I've seen two-cycles pushed is 17% increase, while four-cycles go as much as 50%. This puts the four-cycle unit in the lead for horsepower per size and weight.

Before you print this type of *baloney,* talk to someone who has touched the iron (I've pulled wrenches since World War II on airplanes, earth movers and stationary engines).

BOB RYAN
Somerville, Mass.

As a former EMD field service man, your editor has "touched the iron," and so has Mr. Cuisinier in his professional capacity. EMD does, indeed, have a gear-driven turbocharger equipped with an overrunning clutch; the turbo is gear driven at low speeds until the exhaust gas attains enough energy to "lift it off" the gear train. To quote the EMD 645E3 Turbocharged Engine Maintenance Manual, "The turbocharger assembly is primarily used to increase engine horsepower and provide better fuel economy through the utilization of exhaust gasses. The turbocharger has a single-stage turbine and a connecting gear train. The connecting gear train is necessary for engine starting, light load operation and rapid acceleration. Under these conditions, there is insufficient exhaust heat energy to drive the turbine fast enough to supply the necessary air for combustion, and the engine is actually driving the turbocharger through the gear train, assisted by exhaust gas energy."

There is a difference in terminology between the industrial/automotive and rail fields when it comes to turbos, superchargers and such, but EMD's terminology is accepted as standard within the industry. In railroading, a roots blower on a two-cycle engine is considered "normally aspirated" as compared to a turbocharger, even though the turbo is exhaust-driven only part of the time. Gear driving the EMD turbo eliminates the "turbo lag" that produces the spectacular smoke typical of an Alco on acceleration—J.B.

Wintons on submarines

I was intrigued with Cuisinier's Winton article. While basically on target, he states that EMD sold the Cleveland Diesel rights to Hatch & Kirk of Seattle "in the early 1970s." In fact, the sale apparently occurred as recently as 1980, as indicated by an ad announcing same in the 1980-81 edition of *Jane's Fighting Ships.*

While Cuisinier indicates the Model 278 was a "simplified commercial" version of the Model 248, it in fact became the standard Navy submarine power plant from mid-1943, when it was first fitted to SS-251 *Flounder.* As Cmdr. John D. Alden states in his definitive work, "The Fleet Submarine in the U.S. Navy" (U.S. Naval Institute, Annapolis, 1979, page 90): "This (the 16-278A) was essentially an improved version of the earlier 16-248 with the aluminum pistons replaced by steel to eliminate the burning problem in the older engines." He goes on to state that the original 16-201A fitted in the "P" class of the 1930s (SS-172, 173, 175, 177 and 178) were replaced with 12-278A units in 1942-43. So it was definitely not a strictly commercial engine.

On another matter, I especially appreciated Cuisinier's book review of "Dawn of the Diesel Age." That's what I call a serious, scholarly, in-depth book review.

ZENON HANSEN
Chicago, Ill.

Cuisinier says to change that "early 1970s" to "late 1970s." The Hatch & Kirk ad you refer to first appeared in the 1979-80 Janes, *with a closing date of May 1979; the copy was probably written in 1978. As for the 278 "commercial" engine, you seem to be confusing the 278 and 278A, which were different*

Railfanning is:

Wondering if the Cleveland Diesel 278A was the Canadian version of the 278, eh?

machines. The 278A was a 278 with larger diameter cylinders—much as the EMD 645 was developed by enlarging the cylinder diameter of the 567. The 278 was the immediate predecessor of the 278A but was not produced in nearly as great a quantity as the later engine. Both the 278 and 278A saw military as well as commercial application. One surviving example of an early application of a 278 is the Coast Guard Cutter Tamaroa, *WMEC 166, a former USN fleet tug commissioned on October 9, 1943; the ship today has 278 engines, not 278A's. Incidentally, the 278A had "alloy cast iron" pistons, not steel—J.B.*

BL1 499

I very much enjoyed your features on EMD's Styling Section. I doubt a more important cover story for the tenth anniversary issue could be found.

The photo of F3 demonstrator 291 on page 42 reminded me of an apparent mystery in diesel locomotive lore. To date, I have failed to find information about the paint scheme used on EMD BL1 demonstrator 499 (a letter to EMD proved unsuccessful). Did you run across a color sketch of 499?

DANA M. DAVIS
Manteca, Cal.

While there was some BL2 material in the drawings I photographed, there was nothing identified as the 499. There was, however, a BL2 demonstrator—unnumbered—and that photo was printed in color in the April 1982 RAILROAD MODEL CRAFTSMAN, *page 75—J.B.*

Pere Marquette diesel colors

I have enjoyed your recent articles on the work of the GM stylists, particularly the reproductions of the artwork. However, I did notice an error in the discussion of the Pere Marquette color scheme in the January 1985 issue.

PM's first six diesels (SW1s 10 and 11 and NW2s 51-54) were originally painted black with white lettering. All were delivered before production of switchers was halted for World War II. They were repainted prior to the PM/C&O merger of June 1947. The remaining ten NW2s (55-64) were delivered, starting in November 1945, in the "maize and blue" color scheme honoring the University of Michigan. These were also the original colors on PM's three GE 70-tonners (20-22) and the Manistee & Northeastern's two NW2s (2 and 3).

All of this information is from *Chesapeake and Ohio Diesel Review,* published by the C&O Historical Society.

ROBERT VANDE VUSSE
Holland, Mich.

On the subject of early Pere Marquette diesel switcher paint schemes as brought up on page 58 of the January 1985 R&R, the early PM switchers (SW1s 10 and 11, and NW2s 51-54) were delivered in what was essentially the PM's steam locomotive paint scheme: black with Dulux gold lettering. (This information comes from Jack Wheelihan, who modeled a PM SW1 using the EMC/EMD lettering diagrams, and from Art Million, who confirmed that the four NW2s were also black).

The first blue PM NW2s were 55-64, delivered in late 1945 and 1946, just prior to the first PM E7s.

All of the black PM switchers subsequently wore a paint scheme that included the yellow (outlined in red) striping employed

PRAIRIE BRANCHES

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on the blue units. It appears to us that the striping was applied over the original black paint. (This is a point of contention at the present time—some members "remember" the SW1s as being blue with the stripes. Yet the lettering remained unchanged in position—the photo of PM 10 after retirement on page 71 of the *Chesapeake & Ohio Diesel Review* shows the same classification lettering that the unit had had when built, in the lower front of the cab side.)

At any rate, the blue and yellow adopted by the PM in 1945 is indeed the precursor of the C&O—and Chessie System—colors used ever since.

CARL W. SHAVER
Lombard, Ill.

I've been telling everyone of the astounding disclosure about the UofM blue and gold as the source of the C&O/Chessie colors. But why UofM? I can see using the names *Spartan* and *Badger* (MSU and University of Wisconsin) for the ferries, but the only contact PM had with the University of Michigan in Ann Arbor was the football specials from both north and south that came in over the Ann Arbor R.R.

EUGENE HUDDLESTON
East Lansing, Mich.

This is typical of the research possibilities that the EMD paint scheme features may generate. We may not have all the answers, but the questions are sure getting more interesting—J.B.

Forget the Wabash?

C'mon Hal. I'd expect better of you in your FROM THE PUBLISHER'S DESK in the January issue than to omit the Wabash from both lists—and to lump Wabash *and* the Pennsylvania into "other roads." Your editor would know that Roosevelt Road roster in a minute. Where was he?

Regarding your NRHS convention news photos in the January issue, while I like Cincinnati, you (not you, but others) can keep its chili. Hence, you'll note judicious cropping on my shot of 765 crossing the Ohio on page 25 of the December 1984 *Trains*. Cinci's Steak 'n Shakes have *horrible* chili. (Burp.)

J. DAVID INGLES
Managing Editor
Trains Magazine
Milwaukee, Wis.

Not only did we omit the Wabash, we left out the Chicago Surface Lines running on the bridge. As for the chili, that's between you and Boyd—H.H.C.

I cannot deny myself a response to the editor's protest of including an "EAT SKYLINE CHILI" sign in the shot of our NKP 765 southbound off the C&O bridge into Covington, Ky., on September 2, 1984.

My allegiance to Skyline Chili was forged from 1976 to 1979 while working in Cincinnati for the Norfolk & Western laying welded rail on the former PRR—now New Castle District main line. Skyline Chili is to our crew as coal is to the 765: *essential fuel.* Let it be known that both of these essential fuels were hard at work doing their respective jobs as this shot was taken.

I know a guy who feels this way about *his* essential fuel. He eats at that other place down the road, Steak 'N Shake.

GARY P. BENSMAN
Chief Mechanical Officer
Ft. Wayne Railroad Historical Society
Ft. Wayne, Ind.

In Search of Steam

BY MIKE EAGLESON

The time lag between writing and publication caught up with us in Mike Eagleson's IN SEARCH OF STEAM in the March 1985 issue. The Andorra-Escatron Railway in Spain dropped its fires on August 7, 1984, shortly after Mike had submitted his feature for publication. Carl Spangler of Tacoma, Wash., sent us a clipping from the French magazine *La Vie du Rail*, dated November 8, 1984, headlined "Vapeur sur Andorra-Escatron c'est fini!" He goes on to report that the little Baldwin is to be put on display at Andorra and the 4-8-4T *Samper de Calanda* is to be displayed at the ENDESA power plant. Disposition of the other engines has not yet been determined. Another letter from Paul Brown of Orleans, Ontario, reports that the reason for the shut-down is that the coal traffic was shifted to trucks. He also notes that the Ponferrada-Villablino narrow gauge, covered in the January issue, has acquired diesels for all main line work and that as of January 1985 steam could be found only in switching duties. We regret that these sudden changes rendered the two features out of date—J.B.

Timetable

Listings in this column are published without charge and are run on a space-available basis at editor's discretion. Policy is to run two consecutive issues per entry where appropriate. RAILFAN & RAILROAD accepts no responsibility for date or time errors or cancellations. Notices must be received by Jan. 15 for May issue, Mar. 15 for July issue, May 15 for Sept. issue, July 15 for Nov. issue Sept. 15 for Jan. issue and Nov. 15 for March issue.

RAILFAN EVENTS

WASHINGTON, D.C. April 21. National Capital Trolley Museum "Trolley Car Spectacular" with all the museum's operable cars in action or on display from 1:30 to 3:30 p.m. No admission charge; normal fare for trolley rides. The Trolley Museum is in the Maryland-National Capital Park & Planning Commission's Northwest Branch Regional Park on Bonifant Road between Layhill Road and New Hampshire Avenue, north of Wheaton, Maryland. Normal operations are weekends noon-5pm. Contact: National Capital Trolley Museum, P.O. Box 4007, Colesville Branch, Silver Spring, MD 20904.

AMORY, MISSISSIPPI, April 25-28. "Amory Railroad Festival" with family activities, entertainment, hobo parade, arts & crafts and railroad rides with Mississippian R.R. 2-8-0 77. Contact: Railroad Festival, Downtown Historic Frisco Park, Amory, MS 38821; 601/256-7194.

KENNEBUNKPORT, MAINE, April 28. "Trolley at the Corner" exhibition of streetcars from cities around the world. Sunday, 10am-5pm. Includes rides, exhibits, museum store and dining car. Admission $5, kids 6-16 $2.50. Contact: Seashore Trolley Museum, Drawer A, Kennebunkport, ME 04046; 207/967-2712.

CHICAGO, ILLINOIS, April 28. First fantrip in over ten years on the Chicago South Shore & South Bend will cover all trackage presently electrified. Plenty of photo stops. Fare is $30 with box lunch available at additional cost. For details send large SSAE to: Central Electric Railfans' Association, P.O. Box 503, Chicago, IL 60690.

HOBOKEN, NEW JERSEY, April 28. "The Warwick-Middletown Limited" passenger excursion from Hoboken and Waldwick, N.J., to Middletown and Warwick, N.Y., via ex-Erie Bergen County and Graham lines using N.J. Transit climate-controlled coaches and special privately-owned NYO&W-painted diesel. Departs Hoboken Terminal 9:00 a.m. and returns approximately 7:30 p.m. Ride over rare ex-Erie, NYO&W, NYNH&H and L&HR trackage. Photo stop at former NYO&W station and shop in Middletown and historic Warwick tour. Fare $35. For flyer and order form send SSAE to: Tri-State Railway Historical Society, Inc., P.O. Box 2243, Clifton, NJ 07015; 201/488-5429. VISA and MasterCard.

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area. For brochure listing dates and fares, contact: 20th Century Railroad Club, 509 W. Roosevelt Road, Chicago, IL 60607, or phone 312/829-4500.

TOLEDO, OHIO, May 4-5. Two one-day excursions on the D&TSL from Toledo to Detroit and the GTW to Durand, Michigan, for the "Railroad Days Festival." Co-sponsored by Bluewater Michigan Chapter NRHS and Mad River & NKP Railroad Society. For details send SSAE to: Bluewater Michigan Chapter, P.O. Box 296A, Royal Oak, MI 48068. Also in conjunction with the Durand Festival will be an all-caboose train operating three times a day between Durand and Owosso.

RIO VISTA JCT., CALIFORNIA, May 4-5. Annual Spring Festival at The Western Railway Museum featuring a dozen electric cars and three steam locomotives in operation. 11am-5pm. Festival Days admission $5 adults, $3 youth 12-17 and seniors over 65; $2 kids 3-11. Museum located on Cal. Hwy. 12, about 10 miles east of I80 Fairfield Exit. Contact: Bay Area Electric Railroad Assn., P.O. Box 3694, San Francisco, CA 94119; 707/374-2978 (weekends).

WAUWATOSA, WISCONSIN, May 10. "All Star Railroad Program" for railfans and modelers at 7:45pm at Bethany United Methodist Church (Lower Hall), 7265 West Center Street in Wauwatosa. Presented by the Lionel Railroad Club, P.O. Box 282, Brookfield, WI 53005.

ORRVILLE, OHIO, May 11-12. Main line steam excursion using ex-NKP 2-8-4 765 on 248-mile roundtrip each day between Orrville and Pittsburgh on Conrail's ex-PRR Pittsburgh-Chicago main line. Arrive downtown Pittsburgh at Amtrak station; three-hour layover for sightseeing and dining. Open window and air conditioned coaches available. For trip brochure send large SSAE to: Orrville Railroad Heritage Committee, Box 11, Orrville, OH 44667.

MOUNT SHASTA, CALIFORNIA, May 11. Steam excursion on McCloud River R.R. using 2-6-2 25 for 64-mile round trip to Bartle. Open and closed cars; photo runbys. Departs Mt. Shasta 9:30 a.m. and returns 4:00 p.m. Donations $35. Contact: Mt. Shasta Excursion Club, 611 South A Street, Mt. Shasta, CA 96067; 916/926-2752.

WINCHESTER, VIRGINIA, May 11-12. Railfan excursion on Winchester & Western Railroad with beautiful scenery, rare mileage and Alco power with photo and movie opportunities. For trip flyer, send SSAE to: Winchester Chapter NRHS, P.O. Box 282, Winchester, VA 22601. Phone 703/662-8964.

PORTLAND, OREGON, May 11 and 12. Two one-day round trip "Deschutes River Rail Excursions" will be run by Pacific Northwest Chapter NRHS using Amtrak equipment (two F40s, cafe lounge, snack lounge and ten coaches). Runs BN

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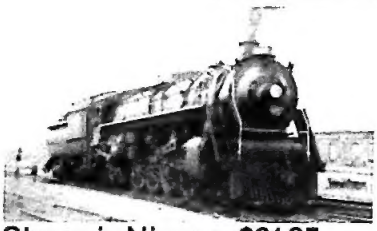

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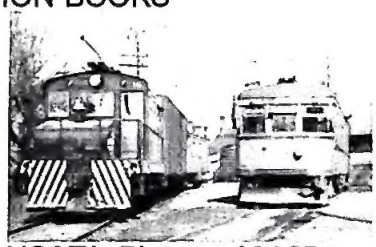

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Portland/Vancouver to Madras, Ore., via BN and Oregon Trunk lines. For full details send SSAE to: Pacific Northwest Chapter NRHS, Union Station Room One, Dept. RR, Portland, OR 97209.

MARSHALLTOWN, IOWA, May 17-19. Chicago & North Western Historical Society Annual Meeting with movies, slides, clinics, photo and model contests, diesel shop tour, night photo session and Boone & Scenic Valley fantrip. Saturday evening banquet speaker will be C&NW Sr. VP Operations J.A. Zito. Send SSAE to: Vaughn Ward, 201 North 8th St., Marshalltown, IA 50158.

CASS, WEST VIRGINIA, May 17-19. "Cass Railfan Weekend" featuring geared steam locomotives—including WM Shay 6—and WM BL2 diesel on passenger and freight consists on mountain climb to Bald Knob or ex-C&O Greenbrier River line. Night photo session, audio-visual shows and special folk music program. Weekend ticket: $40. Contact: Cass Scenic Railroad, P.O. Box 75, Cass, WV 24927.

SOUTHERN RAILWAY Although full 1985 steam schedule was not available at press time, the following SR steam excursions will be run out of the Washington, D.C., area in the spring:

May 18, 2-8-2 4501 Alexandria to Front Royal, Va., and return; **May 19,** 4501 Alexandria to Charlottesville and return; **May 25-26,** 4501 from Alexandria via Front Royal and N&W Shenandoah line to Roanoke, overnight layover and return using N&W 4-8-4 611 via Lynchburg and Charlottesville to Alexandria.

June 1, FP7 diesels Alexandria to West Point, Va., and return; **June 2,** N&W 611 Alexandria to Charlottesville and return.

First Class service available on some trips. For details, contact: Steam Train, P.O. Box 456, Laurel, MD 20707.

BRITISH COLUMBIA RAILWAY Ex-CPR Royal Hudson 2860 will begin regular operations between Vancouver and Squamish on May 18. During 1985 it will run Wednesday through Sunday from May 18 through September 15. Adult fare is $14. Also available will be combination trips using Royal Hudson steam train and Motor Vessel "Britannia." For full details and special schedules contact: Royal Hudson Steam Train, Room 140, 800 Hornby St., Vancouver, BC V6Z 2C5.

DETROIT, MICHIGAN, May 18. "Tulip Train" from Detroit to Holland, Mich., for the world-famous Tulip Festival. **May 25:** One-day excursion from Birmingham, Mich., to the Alma "Scottish Highland Games" over GTW and T&SB with short side trip to Shephard over rare Ann Arbor R.R. trackage. For details on both send SSAE to: Bluewater Michigan Chapter NRHS, P.O. Box 296A, Royal Oak, MI 48068.

UNION, ILLINOIS, 1985 season. Illinois Railway Museum begins Sunday operation of electric cars on April 21, with weekend operation of electric and steam or diesel trains on Memorial Day. Electric cars run daily Memorial Day to Labor Day. Special events for 1985 include:

May 27, Diesel Day with all serviceable diesels running.
June, CB&Q Zephyr will run Saturdays in place of steam.
June 15, Milwaukee Day with electric and diesel equipment.
June 16, Railroad Day with handcar and caboose rides.
June 4, Trolley Pageant, largest operation of trolleys in Midwest.
August 4-10, Steam Week, steam trains operate daily.
August 31-September 2, Railfan Weekend.
October 5-6, Members Day.

For free brochure, contact: Illinois Railway Museum, P.O. Box 431, Union, IL 60180; 815/923-2488 or Chicago area 312/262-2266.

PITTSBURG, KANSAS, June 7-8. Fourth Annual Convention of the Kansas City Southern Historical Society at the Holiday Inn. Includes KCS tour, photo and model contests, banquet and more. Free to members, $15 for non-members. Contact: Convention Secretary, KCS Historical Society, P.O. Box 17815, Kansas City, MO 64134.

FORT BRAGG, CALIFORNIA, June 8. Centennial Railfan Steam Excursions on the California Western with "Super Skunk" 2-8-2 45 through scenic redwoods to Northspur layover location. Two 42-mile roundtrips will be run—one morning and one afternoon departure. Fare $20 includes souvenir program and centennial button. Trips will have photo runby. For full information send large SSAE to: Mendocino County Railway Society, P.O. Box 1141, Ft. Bragg, CA 95437; or call 707/964-7171 mornings or weekends.

MAD RIVER & NKP RAILROAD SOCIETY The following guided rail tours are being offered by the Mad River & NKP Railroad Society. For details send large SSAE to: Trips, P.O. Box 42, Bellevue, OH 44811.

June 8-23, "Alaskan Adventure" on rail, air, ship and bus to include Alaska R.R., WP&Y and Inland Passage cruise.
September 21-29, "Churchill and Northern Canada" on Amtrak, VIA and Algoma Central.
October 3-7, "Delightful Delta Queen Steamboatin' " on Amtrak from Crestline, Oh., to Pittsburgh for three-night cruise on Ohio River on the Delta Queen.
November 1-13, "South of the Border" Mexican rail tour departing Toledo on Amtrak to Mexico City—First Class travel throughout Mexico.

CHICAGO, ILLINOIS, June 23. Railroad Club of Chicago bus excursion to Mid-Continent Railway Museum in North Freedom, Wisconsin. Fair $40 includes transportation and rides at Mid-Continent, with photo runbys on train. Contact: Railroad Club of Chicago, 3737 West Lyndale, Chicago, IL 60647; 312/489-4461 or 312/235-5083.

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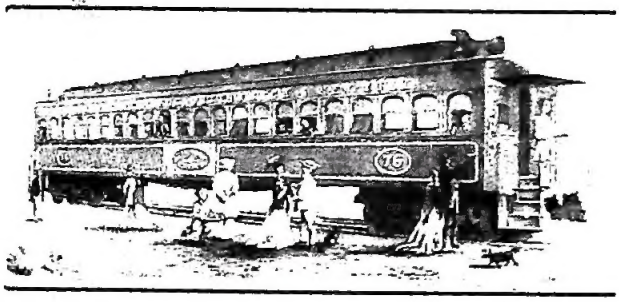

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LAONA, WISCONSIN, June 25-August 24 (daily except Sundays). Laona & Northern will operate 2-6-2 on "Lumberjack Specials" at 11am, noon, 1pm and 2pm to Camp 5 Museum Farm with numerous attractions. Last return 4pm. Contact: Camp 5 Museum Foundation, Laona, WI 54541.

AKRON, OHIO, June 29-30 Tentative. Excursion using diesel power and Cuyahoga Valley Line cars from Akron to Bellevue, Ohio, on ex-AC&Y and W&LE trackage for Bellevue "Cherry Festival." For brochure, send large SSAE to: Bellevue Excursion, RD1 Box 1567, Stow, OH 44224.

BOSTON, MASSACHUSETTS, June 29-July 14. "Rocky Mountain Ramble" rail tour from New England to Colorado on Amtrak to visit Durango & Silverton, Cumbres & Toltec, Georgetown Loop and other rail attractions. Over 6000 miles. For details send large SSAE to: Mystic Valley Railway Society, P.O. Box 486, Hyde Park, MA 02136-0486; or call 617/361-4445.

MORRISVILLE, VERMONT, July and August. The Lamoille Valley Railroad will operate regular passenger excursions on 70-mile round trip through historic covered bridge and over Walden Mountain to Joe's Pond. Diesel power and open-window coaches, with breathtaking views. Trains depart Morrisville at 10:00 a.m. Tues/Thurs/Sat in July and August. Fall Foliage excursions will be run in September and October. For brochure and detailed schedule, contact: Lamoille Valley Railroad, Stafford Ave., Morrisville, VT 05661; 802/888-4255.

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CHALLENGER TOURS, P.O. Box 8965, Trenton, NJ 08650 (609/586-4664), is offering the following rail tours. Contact them for full details.

THAILAND, MALASIA and SINGAPORE, April 3-17. Railway Travel & Photography rail and sightseeing.

TURKEY, April 18-27. Railway Travel & Photography tour.

WEST GERMANY, May through October. German Federal Railways 150th Anniversary celebration activities. Special tours or combine with other European tours.

SOUTH AFRICA, May 10-25. Railway Travel & Photography tour for steam (additional week in South Africa optional).

ZIMBABWE, May 23-June 9. To Europe for Steam tour on special steam train and steam in Zambia.

SWEDEN and NORWAY, June 13-23. Scandinavia's Railway Scene presents 1500 km behind steam plus museums and trams.

FRANCE, June 28-July 12. Railway Travel & Photography tour.

SOUTH AFRICA, July 5-20. Railway Travel & Photography steam tour with additional week optional to Zimbabwe.

EUROPE, July 5-21. To Europe for Steam tour of Switzerland, France and Italy including TGV.

EAST and WEST GERMANY and POLAND, July 17-August 4. To Europe for Steam to Nuremberg steam festival and five days each in East Germany and Poland.

EAST GERMANY, July 18-29. To Europe for Steam grand tour with steam on three gauges.

ZIMBABWE, August 1-18. To Europe for Steam tour on private steam train plus steam in Zambia.

EUROPE, August 9-25. Railway Travel & Photography tour includes steam tram in Germany, French TGV and visits to Switzerland and Austria.

ZIMBABWE, August 16-31. Railway Travel & Photography tour including Garratts and colliery steam.

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TURKEY, October 4-19. Railway Travel & Photography tour for a variety of steam.

CHINA, November 15-30. Railway Travel & Photography tour to ride and photograph trains in Northeast China, including steam and industrial lines.

INDIA and NEPAL, November 15-December 7. Railway Travel & Photography tour includes steam on three gauges in India and a Garratt in Nepal.

OXFORDSHIRE, ENGLAND, May 18-June 2. "Great Western Steam 150" celebration at Didcot Railway Centre with special events and steam operations honoring the 150th anniversary of the Great Western Railway. Contact: Great Western Society, Didcot, Oxfordshire; telephone Jeanette Howse, 0235 817200.

BRITAIN, May 23-June 7. Ride British Rail and preservation (tourist) railroads including Great Western Society, Keighly & Worth Valley, Severn Valley Ry., Tallyllyn Ry., Festiniog and more. Operated by Adventure Travel, 9021 Pacific Ave., Tacoma, WA 98444; 206/531-1757.

GERMANY, July 6-21. Rail tour of Europe highlighting the 150 years of German railroading including steam trains out of Nuernberg. Travel in Holland, Germany, Switzerland and France will include TEE "Rheingold," the "Glacier Express," "Bernina Express" and TGV. Contact: DER Tours, Inc., 104 S. Michigan Ave., Chicago, IL 60603; 312/782-2939.

RAIL STUDY TOURS INTERNATIONAL, P.O. Box 3468, Alexandria, VA 22302; 703/998-2362, has the following tours scheduled.

BACKWOODS RAILROADS OF CHINA, August 1-25, will focus on logging railways of China's northeast. Includes Peking, Datong loco factory and much more—main line stream and three cities with streetcars.

150th ANNIVERSARY OF GERMAN RAILROADS, September 3-22. Special rail events in East and West Germany

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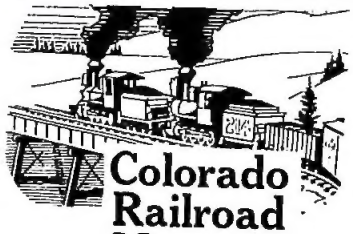
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GERMANY, September 12-30. "150th Jubilee Anniversary" with special steam activities. For details contact: Adventure Rail Tours, 9021 Pacific Ave., Racoma, WA 98444

RAILROADIANA MEETS

JOLIET, ILLINOIS, April 13. Blackhawk Chapter NRHS Swap Meet at First Lutheran Church, 55 W. Benton St. in Joliet, 9am-2pm. Adults $1, kids 5-12 50¢. Tables $7 advance registration. Contact: Steve Tharp, 2289 New Lenox Road, Joliet, IL 60433; 815/726-7101.

UNION, NEW JERSEY, April 14. Tri-State Chapter NRHS "Railroad Extravaganza" with over 100 tables and everything for the railfan and modeler at Boys & Girls Club, 1050 Jeanette Ave., Union, N.J., 10am-4pm. Adults $2, kids and seniors $1. Tables available. Just off Morris Ave., about one mile west of Garden State Parkway and Route 22. Contact: Tri-State Railway Historical Society, P.O. Box 2243, Clifton, NJ 07015; 201/857-2987.

RAILWAY EMPLOYEES ACTIVITIES ASSN. "Whistle Stop Train Show & Flea Market" will be held at the following locations and dates. For details contact: Railway Employees Association, P.O. Box 16489, Rocky River, OH 44116; James Madden, 216/476-476-0456.

Youngstown, Ohio, April 19-21. Southern Park Mall, 7401 Market Street. Friday and Saturday 10am-9pm; Sunday noon-5pm. Free parking and admission.

Toledo, Ohio, May 3-5. Southwyck Mall, 2040 South Reynolds Road. Friday and Saturday 10am-9pm, Sunday noon-6pm. Free parking and admission.

PITTSBURGH, PENNSYLVANIA, April 27. Steel Valley Train & Toy Show at Castle Shannon Firemen's Memorial Hall on Route 88. 11am-4pm. Adults $3, kids under 12 free. Contact: Mrs. Catherine Daum, P.O. Box 10977, Pittsburgh, PA 15236; 412/643-6940.

ST. LOUIS, MISSOURI, April 27. McDonnell Douglas Railroad Club "Railroad Show & Swap Meet" at Greensfelder Recreation Complex, Queeny Park, 550 Weidman Road, Manchester, Missouri. 9am-2pm. Admission $1, table advance $8, at door $10. Contact: Richard S. Young, 105 Francisca, Florissant, MO 63031; 314/837-3407.

ASHEVILLE, NORTH CAROLINA, April 27. Western Carolina Model Train & Hobby Meet at the Great Smokies Hilton, 9am-4pm. Admission $2. Contact: David Summerford, Rt.1 Box 41, Pineville, NC 28134; 704/588-0147.

HELENA, MONTANA, May 5. "Helena Railroad Fair" at Colonial Best Western, 2301 Colonial Drive; 10am-4pm (8am set-up). Admission $1, table $10. Contact: John A. Elliott, 24 South Montana Avenue, Helena, MT 59601; 406/443-2348.

MANSFIELD, OHIO, May 11. Mansfield Model Railroad Club's 17th Annual Model Railroad & Railroadiana Swap Meet at the Masonic Temple, Lexington Ave. (US 42) at Middle-Bellville on city's south side. 10am-4pm. Adults $1.50, youth 12-18 $1, kids under 12 free with adult. Tables $10 in advance. Contact: Bob Kitley, 752 W. 4th St., Mansfield, OH 44906; 419/526-0680.

KITTANNING, PENNSYLVANIA, May 26. Central Armstrong Model Railroad Train Show at Kittanning Twp. Firehall, E. Rte. 422. 10am-4pm. Admisstion $2.50, kids under 12 free. Contact: James Boyer, RD 2, Box 133, Ford City, PA 16226; 412/763-8327.

JERSEY CITY, NEW JERSEY, May 19. "Rail Expo II" railroadiana, model railroad and toy train show at the CNJ Passenger Terminal, Liberty State Park on the Hudson River (Exit 14-B off N.J. Turnpike—no local streets). 10am-4pm. Admission $2.50, kids under 12 free. Operating model railroads, live steam CNJ camelback 4-6-0, rail and model movies. Tables $22.50. Send large SSAE to: Communipaw Commemoratives—Rail Expo, P.O. Box 831, Pamrapo Station, Bayonne, NJ 07002-0831.

ST. CHARLES, ILLINOIS, June 9. "9th Annual Railroadiana Show & Sale" at Kane County Fairgrounds. 10am-4pm. Largest show in the country with 325 tables of railroadiana—all railroadiana, not model/toy trains. Contact: B. Birk, P.O. Box 1107, Wheaton, IL 60189.

SOUTH CARVER, MASSACHUSETTS, June 15-16. Edaville Railroad's 15th Annual Railfan Weekend and Collectors Flea Market. 10am-5:30pm. Admission and train ticket: adults $6, children $3, under age 3 free. Edaville is on Rte. 58 at South Carver. Contact: John Bryden, Edaville Railroad, P.O. Box 7, South Carver, MA 02366; 617/866-4526.

AKRON, OHIO, June 15-16. Quaker Square Train Meet with railroadiana, operating model railroads and steam train excursion at the former mill silos and railroad yard of the old Quaker Oats factory. Contact: Quaker Square Train Meet, 135 S. Broadway, Akron, OH 44308; 216/253-5970.

CHARLOTTE, NORTH CAROLINA, June 22. Piedmont Carolina Model Train & Hobby Meet at Heritage U.S.A., I77 south, Carowinds Exit at the state line. 10am-4pm. Admission $2. First table $15, additional tables $12 each. Contact: David Summerford, Rt 1 Box 41, Pineville, NC 28134; 704/377-2582.

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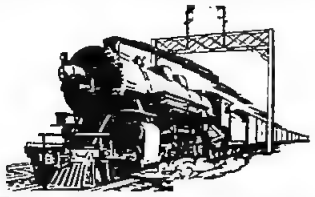

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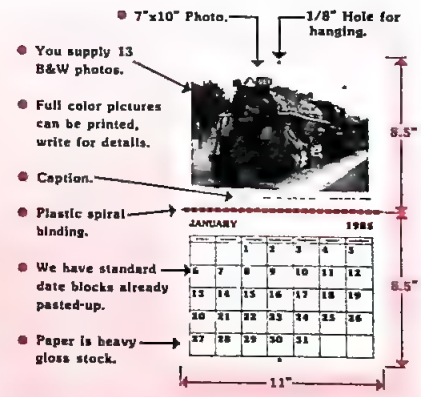

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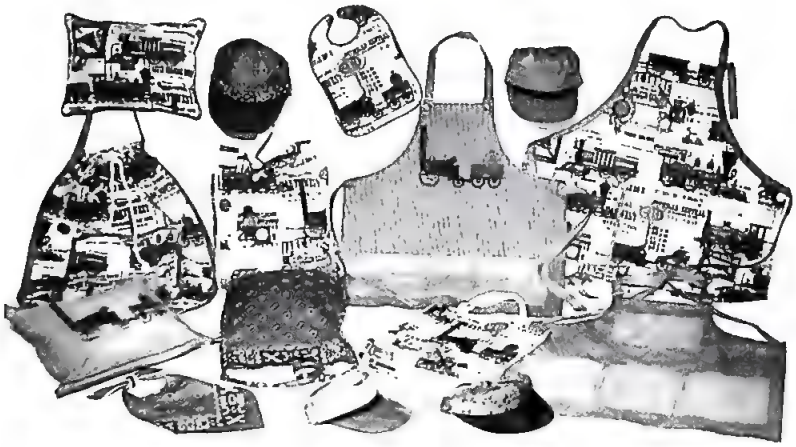
What's new?

They've worked out the details on that Western Maryland steam color book that we talked about in this column in the March issue, and the news is good. *The Western Maryland Steam Album* by William P. Price is being offered at a pre-publication price of $22.50 (plus $2.50 postage and handling, Md. res. add 5% sales tax) on orders received before June 1, 1985. After that the retail price will be $27.95. This book looks at WM steam from 1946 through 1954 with 135 full color photos. It is being published by *Potomac Chapter NRHS,* P.O. Box 235W, Kensington, MD 20895.

And speaking of full color books, John J. Scala has just delivered his *Diesels of the Sunrise Trail,* featuring the motive power of the Long Island Rail Road. The 154-page 8½" × 11" hardcover features excellent photo reproduction—overwhelmingly color, but with a few black & white photos to illustrate early power for which color simply couldn't be found. In addition to the expected blue & yellow and orange & gray LIRR power, you'll be pleasantly surprised to find a variety of ex-LIRR power in colors of its new owners as well as EMD and FM demonstrators and some leased power. It's a very handsome book, available from *The Weekend Chief Publishing Co.,* P.O. Box 1676, Mineola, NY 11501, for $31.95 postpaid.

Continuing our attention to color, Vanishing Vistas, best known for their large format color postcards, has just released *Atchison, Topeka & Santa Fe Railway, Volume 1,* a 34-page softcover 8½" × 11" book of full color photos of vintage AT&SF scenes, mostly by company photographers. The book is essentially a collection of postcards, with each full page photo having its detailed description on the back side. The subject matter ranges from a doubleheading 4-6-2 and 4-8-2 to F45s, with plenty of Warbonnet Fs and PAs. The price is $9.95 postpaid (foreign orders add $2, Cal. res. add 6% tax), from *Vanishing Vistas,* P.O. Box 15902RF, Sacramento, CA 95852-0902. Also in the works in the same format and price is *Norfolk & Western, Volume 1.*

And lest you think we're preoccupied with books, you'll notice that Kay Mathews Designs used R&R last fall to introduce a new line of rail-oriented gift clothing known as Loco-Motifs®. Her line includes tote/beach/laundry bags, a toddler's bib and backyard barbecue aprons as well as a variety of caps. Send an SSAE for her illustrated flyer: *Kay Mathews Designs,* Dept. RFR, 664 North Michigan Ave., Suite 1010, Chicago, IL 60611. A nice springtime gift would be the colorful train-design barbecue apron



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Bill Raia has completed his new book on the interurban CSS&SB entitled *Spirit of the South Shore*, an attractive 80-page 11"×8½" softcover with black & white photography and color covers. The book uses minimal text and extensive captions to depict the South Shore's last 20 years of passenger and freight operation. Coverage is organized geographically and includes the full variety of equipment. A detailed roster includes rebuildings and dispositions, and there is a photo roster as well. The book sells for $11.95 plus $1.25 postage from *Heimburger House Publishing*, 310 Lathrop Ave., River Forest, IL 60305.

Rio Grande Ski Train is a new book by Steve Patterson and Kenton Forrest, a 66-page softcover that documents the seasonal companion of the more famous *Rio Grande* and *California Zephyrs*. With very good b&w photo reproduction and superb color covers, this book describes the historical relationship between the Moffat Road and D&RGW to the ski resort area of Winter Park and documents the ski trains of yesterday and today. It's a fine tribute to one of the most unusual passenger trains still running. The book sells for $8.95. It is published by Tramway Press and distributed by the *Colorado Railroad Museum*, P.O. Box 10, Golden, CO 80402 (shipping $1.50, Colo. res. add 3% tax).

Rails 'Neath the Palms, by Robert W. Mann, is an unusual 224-page hardcover look at railroading in Florida, organized on a railroad-by-railroad basis. The photo reproduction is quite good, and the illustrations are primarily historical and company publicity photos rather than contemporary railfan efforts. There are numerous maps and a "family tree" of each of the larger railroads depicted. The book sells for $29.95 from *Darwin Publications*, 850 N. Hollywood Way, Burbank, CA 91505.

The Algoma Central Railway Story, by Dale Wilson, is a 210-page 8½"×11" book available in both hard and soft cover that seems to live up to its title. With good photo reproduction and neat-if-busy layout, this book packs a lot of information on everything from steam and diesel action to roster

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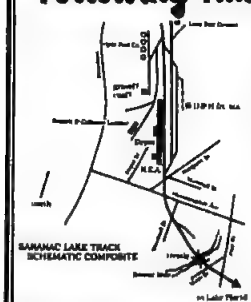

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Calendar Call

What may be Amtrak's last calendar if the proposed budget cuts are passed is an extraordinarily handsome rendering by Gil Reid of the Superliner *California Zephyr* traversing the D&RGW. This full color 23½" × 33¾" single-sheet wall calendar has the painting 13¼" deep across the top and all twelve months in an attractive date block with a buff background color. It is one of the more impressive of the recent Amtrak calendars. They sell for $3.50 each (or two for $6 or three for $8) from *Amtrak Calendar*, P.O. Box 7717, Dept. RR, Itasca, IL 60143. "Back issue" calendars for 1980, 1981, 1982, 1983 and 1984 are also still available at the same price.

Excellent b&w photo reproduction characterizes the 1985 calendar from the *Erie Lackawanna Historical Society*, c/o Harold Werthwein, R.D. Box 2188, Columbia, NJ 07832. The 11" × 17" folded-out wall calendar features action views of three different Erie 4-6-2s; a gas-electric; and F3s at Binghamton, Narrowsburg and Akron; a DL&W 4-8-4 and E8s; two views of EL E8s and an NYS&W ACF railcar. It's a very nice job for $4.95 postpaid from the above address.

Some fine vintage traction scenes, very well reproduced, make up the 1985 calendar from *Trolley, Inc., of Greater New Bedford*, P.O. Box A2057, New Bedford, MA 02741. All of the b&w photos illustrate various cars and scenes of the Union Street Railway, which served New Bedford. It is in the spiral-bound 11" × 17" folded-out wall format and sells for $4.50 plus $1.50 postage and handling.

And to wrap up the 1985 calendars, here's the best offer of the year. Illinois Railway Museum has a very handsome 8½" × 11" single-sided calendar on heavy stock that features an impressive color photo of the museum's three Milwaukee Raod locomotives: FM H10-44 760, 4-8-4 265 and F7 118-C. The price of the calendar is two 20¢ stamps to cover the postage—the calendar itself is free. (Add another 20¢ stamp for each additional calendar you request.) Mail to *Illinois Railway Museum*, Box 431, Union, IL 60180. Offer good while supply lasts.

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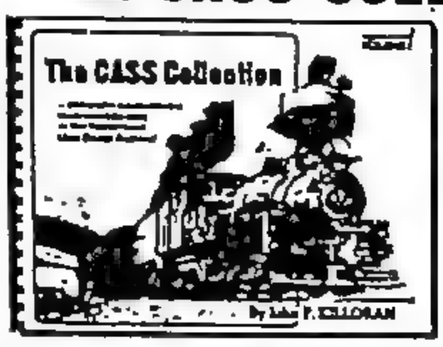

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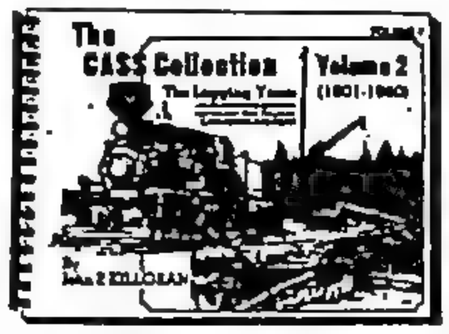

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Traction Publications **by Joe L. Diaz**

TOURS OF DISCOVERY, A San Francisco Muni Album, Interurban Special 89 by Anthony Perles, 162 page, 11½" × 9" hardbound. This fine book has over 230 photographs detailing the development, operations and many changes of the Municipal Railway of San Francisco. A striking collection of photographs covers the earliest days to the present operations, giving a fascinating view of the city through its growth and development, the early Muni rail operations, consolidation with the Market Street Railway, the cable cars, early motor buses, PCC cars, trolley coaches and the recent light rail operations. Additionally, an illustrated chapter depicts the 1983 and 1984 Trolley Festival.

This is a very worthwhile book enhanced by quality photographic reproduction. It is available at $29.95 plus $1.50 postage and handling from *Interurban Press*, P.O. Box 6444, Glendale, CA 91205.

BALTIMORE AND ITS STREETCARS, A Pictorial Review of the Postwar Years, by Herbert H. Harwood, Jr., is a very attractive 95-page, 8½" × 11", perfect bound book with color covers. Baltimore was the scene of a large and complex street railway system with a most interesting array of equipment old and new. The author introduces us to the operation with a brief but informative introduction titled "Looking Back," followed by a selection of 175 photographs. Every photo has been carefully chosen and the photo captions are detailed and informative. The rear cover contains a simple but detailed and informative map of the area served by Baltimore Transit Company in 1945, with the few previously abandoned routes indicated.

This is an outstanding book with excellent photo reproduction and quality content throughout at a most reasonable price. It is available for $10.95 plus $1.00 postage and handling from *Quadrant Press Inc.*, 19 West 44th Street, New York, NY 10036.

NIAGARA, ST. CATHARINES & TORONTO ELECTRIC RAILWAY IN PICTURES, by Andrew Panko and Peter Bowen; 144 8½" × 11" pages, hardbound. This is a well produced photo album extensively covering a fascinating electric railway that operated between Lake Erie and Lake Ontario, with origins in the 1890s, and several divisions. It had a diverse roster of equipment, ranging from early large double-truck open interurban cars, heavy railroad-roof wooden cars and steel cars of various origins

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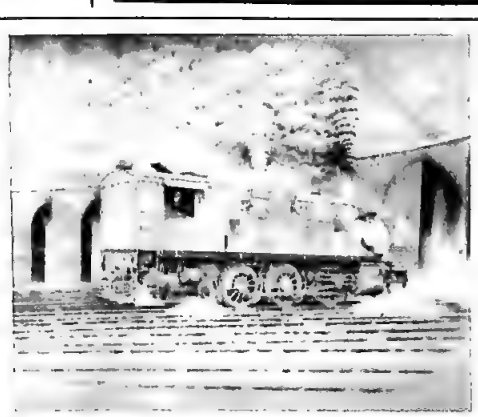

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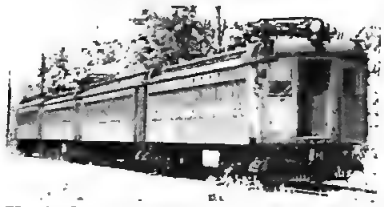

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to a group of Cincinnati Car Co. lightweights in local service. Additionally, a considerable carload freight business was conducted with large steeple cab locomotives and steam road interchange at several locations. There is also interesting photo coverage of the passenger ships of the wholly-owned Niagara, St. Catharines & Toronto Navigation Co.

In 195 photographs, largely operational scenes, the reproduction is excellent and the captions are adequate. There is a system map, though we would have enjoyed a more detailed version with more locations denoted with operational dates of the several divisions. The book is enclosed in a handsome binding with a colorful dust cover. It is available at $24.95 postpaid from *NiagaRail Publications Limited,* R.R. #4, Niagara-on-the-Lake, Ontario, Canada LOS 1J0.

TWIN CITY RAPID TRANSIT PICTORIAL, by Alan R. Lind; 96 11" × 8½" pages, perfect bound. This is an abbreviated historical look at streetcars in Minneapolis and St. Paul. While the text is considerable, the author has generally framed it in question-and-answer format, an unusual approach which is very readable and informative. The Twin City Rapid Transit possessed a well known affinity for their own very distinct style of streetcar. Until the first acquisition of PCC cars in late 1946, the company designed and built their cars in the company shops. The various types of cars are well represented in over 100 photographs. Many of the views are operational scenes, accompanied by adequate captions. Photographic reproduction is very good with many photos reproduced full page.

Included is a brief chapter covering some of the work cars. Additionally there is an equipment roster covering several pages accompanied by detailed notes. It is an attractive volume at $12.50 plus $1.00 postage and handling from *Transport History Press,* P.O. Box 201, Park Forest, IL 60466.

WEST JERSEY RAILS. This book was reviewed on page 16 of the March 1985 R&R, and the publisher had an address change since the review was written. The new address is: *West Jersey Chapter NRHS,* P.O. Box 1022, Haddonfield, NJ 08033.

Book Reviews

The Little Jewel, by Wallace W. Abbey published by *Pinon Productions,* 781 McCarthy Blvd., Pueblo, CO 81005. 216 8¼" × 10" pages, hardbound. $39.00.

In the early sixties, a bold new graphic railroad presence emerged from the upper Midwest—the Soo Line. Exchanging its major predecessors' oh-so-traditional maroon paint for a brilliant new red and off-white image, the "new Soo" broke free of its historically conservative management and marginal financial performance to become one of the most consistently profitable railroads in the country.

The Little Jewel is written by Wallace W. Abbey, the Soo's former publicist. Besides witnessing the events leading to the combination of the Minneapolis, St. Paul & Sault Ste. Marie; the Wisconsin Central; and the Duluth, South Shore & Atlantic, Abbey also designed the new Soo's new image paint scheme. He gives enough background on the new Soo's components for the reader to grasp how the railroads were related before the December 1960 merger. Four maps illustrate each of the three pre-merger companies in addition to the present Soo Line—they are all on the same spread, making comparison easy.

The book's 24 chapters cover all aspects of the Soo's recent history, from the old operating patterns and the elimination of steam into the second generation of diesels. There is a table showing which Soo steam locomotives are preserved and where, along with a very detailed diesel roster. An overview of passenger service and its demise is also included, along with the details of events leading up to the merger. There's plenty for the diesel fan, too, with a chapter on "The Barnstormers," covering the various demonstrators which rambled across the Soo in the sixties, including the GP20s and U25Bs.

There's even a glimpse into the future, with a discussion of Soo's recent attempts at expansion. Beginning with the acquisition of

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Minneapolis Northfield & Southern in 1982, Soo also made a bid for the former Rock Island route from the Twin Cities to Kansas City in an effort to protect itself against Grand Trunk's bid for Milwaukee Road, only to lose the line to C&NW. Outgunned by North Western, Soo then went after the Milwaukee Road itself. Many expected the C&NW to win this bout, too.

The main focus of the book, though, is to outline the history and development of today's Soo Line. The secondary focus, almost as important, is to describe the railroad's motive power, from late steam to today's "plain vanilla" (in the author's words) fleet of SD40s and GP38-2s. The dieselization patterns of the component railroads are covered in a fair amount of detail, contrasting the Soo and Wisconsin Central's rather inflexible concept of "locomotives" rather than interchangeable diesel units (characterized by the complete lack of m.u. connections on the Soo's early roadswitchers and no nose m.u. on the EMD and Alco road diesels) with the DSS&A's slightly more enlightened use of m.u.ed roadswitchers, even if they could only be multiplied nose-to-nose.

The text is extremely informative and easy to read. For the most part, it flows easily and enables the reader to absorb a lot of information without textbook-like dryness. Some bits of information are not directly elucidated, though. For instance, there are a couple of references to problems with the rebuilt Alco trucks placed under the GP30s, but the nature of the problem is not stated. Careful reading enables one to deduce that the Alco trucks' GE motors were prone to flashover due to ingesting snow in the Soo's hostile winter environment. No mention is made of a similar problem with the FA's that the trucks came from.

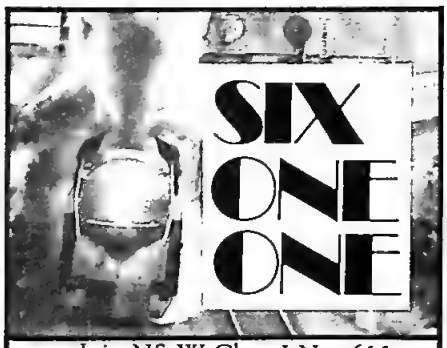
The book's title, *The Little Jewel*, comes from a comment by Ian Sinclair, Chairman and Chief Executive Officer of Canadian Pacific, Soo's benevolent parent. "Soo Line! Well, that's a little jewel! It kicks off a nice bit of money." This book is a little jewel, too. Graphically, it is very clean and neatly laid out. The photo reproduction is uniformly excellent on glossy, heavy paper. The choice of photos complements the text well, even though some of them could have been run a bit larger.

Overall, *The Little Jewel* is an excellent value. Like the railroad, it is small, but dynamic and interesting. If you've ever wondered about the railroad with the "white" cars and engines, you'll find *The Little Jewel* captivating—WALT LANKENAU.

The Allegheny: Lima's Finest, by Eugene L. Huddleston and Thomas W. Dixon, Jr., published by *Hundman Publishing*, 5115 Monticello Drive, Edmonds, WA 98020. Hardbound, 244 8½" × 11" pages; $29.50.

Impressive ... Magnificent ... Beautiful ... Elegant! These words have all been used to describe the engine that represented the pinnacle of steam locomotive development on the Chesapeake & Ohio, the Lima-built H-8 2-6-6-6 Allegheny. The adjective least subject to argument, however, was *big*. Make no mistake about it, these engines were huge. While they possessed "only" twelve 67-inch drivers, as opposed to the 16 68-inchers of a UP Big Boy, the Allegheny was five inches taller, had a four foot longer wheelbase, and both a larger maximum boiler diameter and length than a Big Boy. These engines were not just large in size; their performance was equally outstanding. In tests recorded with a dynamometer car, the H-8s recorded a maximum drawbar horsepower of 7498 at 46 m.p.m., while trailing a 14000-ton train! (By comparison, the highest horsepower figure that I was able to find attributed to a Big Boy, with its 15% higher boiler pressure, was only 6900.)

This, then, is the locomotive which is analyzed, described and portrayed in *The Allegheny: Lima's Finest*. The authors have done a superb job of presenting both an interesting and enjoyable history of the design, construction and operations of these mighty engines. Liberal use of photographs from Lima Locomotive Works's collection of over 600 Allegheny photos provides a delightful counterpoint of construction and equipment photos to the expected complement of roster and



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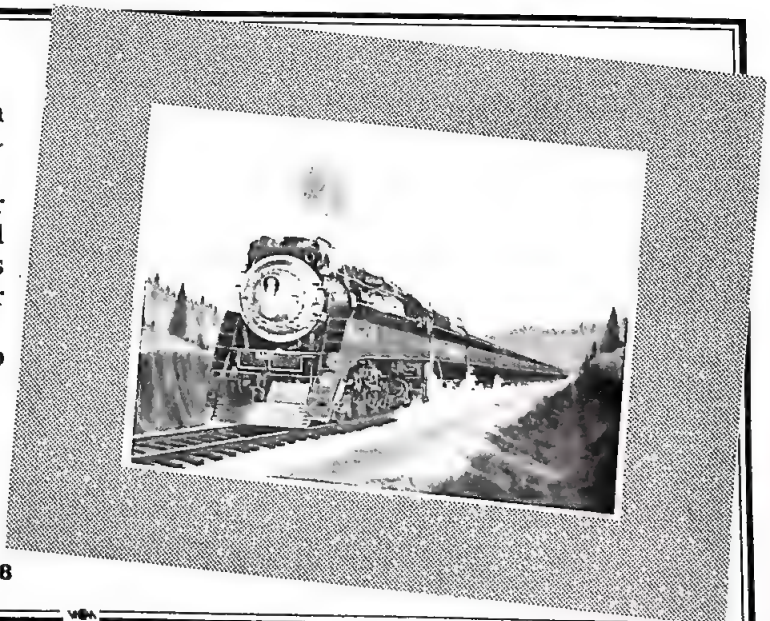

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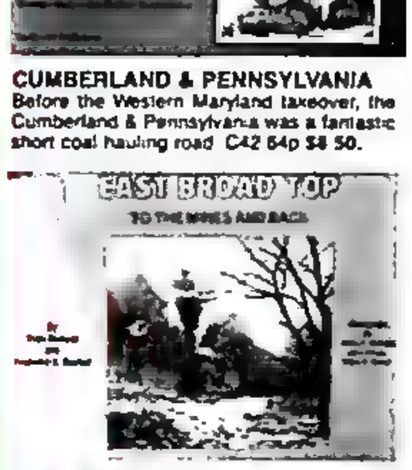

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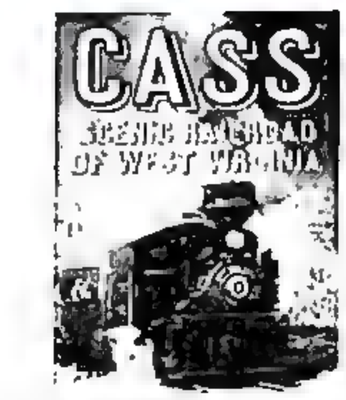

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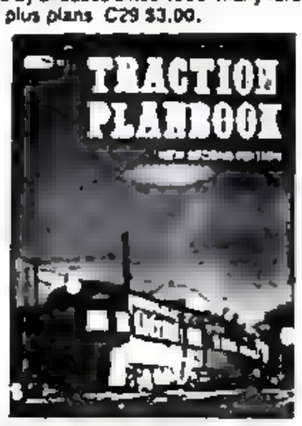

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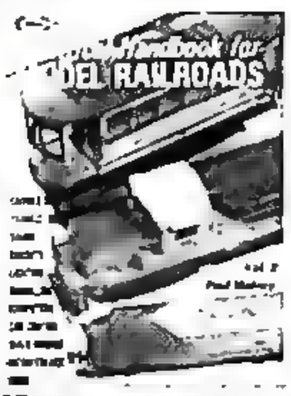

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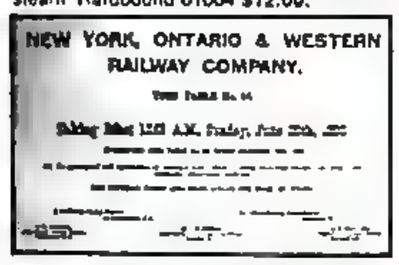

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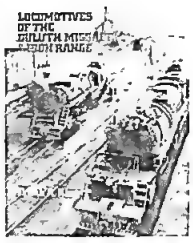
action views. While a chapter is devoted to the Virginian's eight engines, this book is essentially a tribute to the C&O. Gene Huddleston, considered by many to be the dean of C&O steam-era railfan photographers, is to be commended for both his prose and his photography. Tom Dixon's collaboration in photo selection and text review serves to enhance Gene's entertaining writing.

While there is quite a bit of technical data presented in the text, it is written in such a manner that it nowhere becomes dry or boring. In fact, one of my non-railfan acquaintances at work became so engrossed in the text while thumbing through the book one morning that I had to lend it to him for the weekend.

The use of interviews with various Lima employees yields a whole new perspective on the issue of locomotive weights. The H-8s always had an extremely high factor of adhesion quoted (generally 4.6-4.7, depending on the order). Apparently one of the reasons for such a high value was the fact that the engines were 53,000 pounds heavier than the publiclized weights. (For the uninitiated, the factor of adhesion is a measure of an engine's "slipperiness." It is determined by dividing the weight on the drivers by the tractive effort, and the lower the number, the more prone to wheel slip an engine is. The Big Boy had a near "ideal" value of 3.99.) Based on the information in this book, the first order of C&O H-8s, 1600-1609, were the world's heaviest reciprocating steam locomotives, exceeding the first order of UP's Big Boys by over three tons!

While a relatively slim volume as railroad history books go, there is a plethora of drawings, tables and detail photographs included. The layout is attractive and photo reproduction superb. Unfortunately, the lack of an index in a volume as comprehensive as this one is an unforgivable oversight.

This is one book, however, which deserves a place on all railroad enthusiasts' bookshelf. It will serve as a standard of excellence for others to strive for. Don't miss it—MAX S. ROBIN.



Locomotives of the Duluth Missabe & Iron Range, by Frank A. King; 320 8½" × 11" pages, hardbound. Published by *Pacific Fast Mail*, P.O. Box 57, Edmonds, WA 98020; $39.50.

The Duluth, Missabe & Iron Range that we know today was formed by the joining in 1938 of the Duluth & Iron Range (lines east of Duluth) and Duluth, Missabe & Northern (lines west of Duluth). Of course, by 1938 both roads had already developed their own distinctive steam power, and the resulting DM&IR thus had a roster that reflected the heritage of both predecessors. Frank King's new book brings this out very nicely.

An extremely well-edited volume, *Locomotives of the Duluth Missabe & Iron Range* is essentially the motive power sequel to King's 1972 book for Golden West, *The Missabe Road* (which is still available), which focused on the corporate history of the DM&IR. While there is some duplication of photos from the earlier book, *Locomotives of the Duluth Missabe & Iron Range* stands well on its own for coverage of the motive power. The photo reproduction is excellent, and the layouts do justice to the images.

The "story" is told in text blocks that lead off each chapter, with the intelligent photo captions amplifying the information. Frank King had 40 years as an industrial engineer with the DM&IR, and his text includes many first-hand observations and some "inside" stories that would be possible only from someone who was there. His overall summaries, however, are often maddeningly brief, and while he tags all the bases, you're often left with the feeling that you got only an outline of the story—though the captions frequently fill in much of the missing detail.

His chapter of diesels, for instance, is loaded with a fascinating chronology of the

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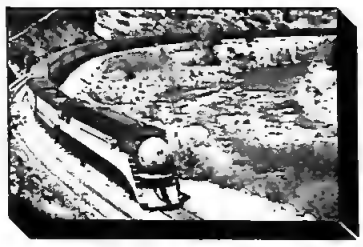

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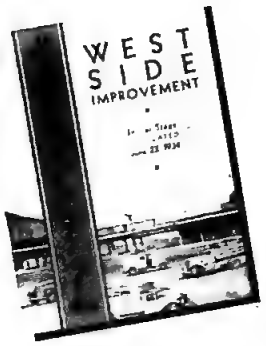

The ex-New York Central elevated freight line on the West Side of Manhattan is threatened with demolition! This unique 1.45 mile viaduct, home of tri-power locomotives, the 1928 Ingersoll-Rand demonstrator, and Tenth Avenue cowboys may be sacrificed for the controversial Westway interstate highway and condominiums. Our non-profit foundation has signed an agreement to purchase the line from Conrail to continue rail service, but is being kept from possession by lawsuits from the New York State Department of Transportation and real estate developers.

Help us save this extraordinary railroad resource by becoming a member. Annual membership is $25; all membership fees and contributions are tax-deductible. While supplies last, new members will receive a 16-page limited edition facsimile of the original 1934 New York Central dedication brochure (pictured). Send for information, or call

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numerous demonstrators that worked the DM&IR—including Baldwins, Train Masters and even a set of EJ&E Sharks—and he tells how the railroad eased into dieselization by leasing power from other U.S. Steel roads or neighbors like the GN. The experiments with SW9s and DL600Bs are related, as the road worked toward the discovery of its ultimate weapon: the SD9. The subsequent spats of borrowing and leasing-out power are glossed over, however, and some potentially interesting information—like *why* they acquired the C630s and then leased them to Cartier—simply isn't there. This is not a fatal flaw in an otherwise excellent book, but it will be irritation to the diesel fans. And while you will find no photos of the EJ&E Sharks at work, there is a photo of the SD24 demonstrator that EMD was so confident would sell that it was painted DM&IR colors but left unlettered—the SD24 didn't outperform the SD9s in drag service, and the Missabe has yet to buy a turbocharged EMD.

Steam, of course, is King's forte, and he covers it with enthusiasm and illustrates it with plenty of photos. Upon receiving the book, I made up my own little test by which to judge his thoroughness: How well does he cover the two ex-DM&IR 2-8-0s that operated into the early 1960s on the nearby Duluth & Northeastern? He passed with flying colors, showing two pages of the 332/28 and before-and-after photos of the 340/27.

There is a complete engine-by-engine roster, a sampling of mining locomotives on neighboring roads and a photo section of rolling stock and engine facilities. Fine roster shots cover the details, and action views put the locomotives into context. It's a quality job on a worthwhile subject—J.B.

Videos

"Big Little Railroad," by *Everything Video*, P.O. Box 313, New Brunswick, NJ 08903. VHS or Beta II videocassette, 26 minutes. $39.95 plus $2.50 postage and insurance (N.J. res. add 6% sales tax). 201/753-5826, MasterCard and VISA accepted.

In the New Jersey area, the film "Big Little Railroad" is legnedary. Produced by the Jersey Central Railroad in 1948, this color and sound promotional film includes excellent views of stream and early diesel action, along with yard and passenger terminal scenes and even the Ashley Planes at work. Produced in the super-patriotic style of the postwar era, the film is fascinating in its subject matter—you'll flip at all the old freight cars—and amusing in its dated style. In local railfan circles, posessing a print of this film would immediately elevate an ordinary CNJ fan to a lofty status.

One advantage of the recent video craze is that it is now economically feasible to preserve and make available such obscure subject matter to the general public—a photographic reproduction of a movie like this would run well over $500 per print, but it can be profitably sold as a video in the $40-range.

A short while before I received this videotape, I viewed the original 16mm optical sound print from which it was made (one of only two prints that I know of). The reproduction is remarkably good; the faded colors and slightly distorted sound are that way on the original print and are not a function of the video transfer. Now this priceless film is readily available for anyone to enjoy, and Everything Video has a whole library of classic railroad films that it is planning to offer in video. On their current list is "Big Trains Rolling," a 1955 AAR color film; "Clear Track Ahead," a 1946 PRR black & white film; "Mainline U.S.A." and "Classroom Quiz 1," two AAR films of 1946 and 1950 respectively; "Once Upon the Wabash," a 1953 color film of the Wabash; "Thundering Rails," a b&w AAR film of 1950; "Wheels of Progress" and "Progress on the Rails," two 1952 b&w films of Pennsy action; and "Whistle In The Night" and "Fast Freight," each 15-minute b&w of 1947 and 1954 respectively, the first an RKO documentary and the second a film about a B&O F7-powered freight. Each tape sells for the same price as "Big Little Railroad"—J.B.

"Canadian Steam in the '50s," by *Rail Innovations*, 55 Parfield Drive, Willowdale, Ontraio, M2J 1C2. VHS or Beta videocassette, 59 minutes, $54.95 (includes First Class postage; Ontario res. add 7% tax).

The ability to reproduce films for about one-tenth the cost of film-to-film reproduction is likely to make the video field a wide open one for the sale of "home movie" rail subjects. A fine example of this is the 16mm silent color work of Newton Rossiter, who was filming Canadian steam action in the 1950s. This first film is the sort of footage that would "lay 'em in the aisles" at an NRHS meeting, with very good camera work

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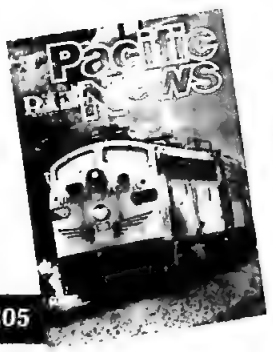

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on CNR and CPR steam action ranging from a CNR 4-6-0 on a mixed train to doubleheaded 4-8-4s and a CPR standard Hudson doubleheading with an RS3—and both competing for smoke honors—to a Jubilee romping out of Windsor in 1957. There is action with a rare CPR 4-8-4 and CNR trains in the prairie proinces that prove not all Mikes and Pacifics look alike.

The reproduction quality on this tape appears to be excellent, though we have never seen the originals. The only drawback to the production is the way the audio is handled, which is with brief scene-by-scene descriptions and no other background music or locomotive sounds. When you turn on the TV you are accustomed to polished studio productions on everything from PBS documentaries to soap commericals, and it is unnerving to be watching absolutely silent footage without so much as a chattering projector for company. You can accept this in a railroad club meeting, but it is a very alien experience on your home TV set. As an experiment, we put some instrumental background music on the stereo, with the volume soft enough that it wouldn't compete with the narration, and found the effect much more pleasing than the silent tape.

As a letter from the tape's producers notes, with over 80 locomotives represented on the tape, they chose not to try to dub sound, as they felt mismatches would only detract from the quality. I have to agree with their logic to a certain degree, but I would have preferred a few examples of dubbed steam sound where the image/recording would be a good match and fill in with subtle background music for the rest of the production.

There is room for a lot of experementation in putting vintage railfan moves on tape, and we're getting only a first look at what could become big business. I would certainly encourage it, for the images on this tape were compelling. I just couldn't look away—J.B.

SP-I, "Bay Area Commuters;" SP-II, "Small Engines;" SP-III "Pacifics to Mountains;" and SP-IV, "The Big Ones;" by *Sunday River Productions*, Box 565, Concord, MA 01742. Four films on one VHS or Beta videocassette, 34 minutes, for $39.95.

Al Morrison has combined some excellent footage of vintage SP steam action with narration and dubbed sound to produce an impressive package. John Kirkland was an excellent photographer for the 1950s, using good equipment and smooth fixed-lens camera work—his scenes are like color slides

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Note the ad in the March issue of Railfan for ordering details and a description of the limited edition collector's copy we are now taking reservations on. The COLLECTOR'S edition will be available on a reservation basis, first come, first serve, until it is sold out, exclusively through Elm Tree Books by direct mail. Firm publication date to be announced soon.

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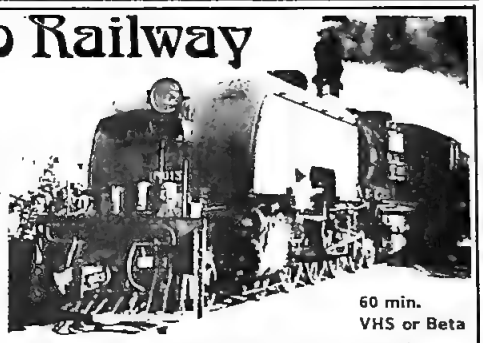

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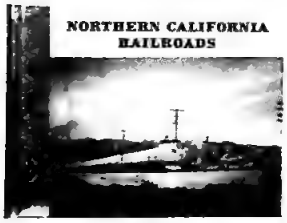

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come to life. He used primarily a normal lens and knew how to do flowing pans. His work translates very nicely onto the video format, and the dubbed sound—while often imperfect—is definitely worth the effort and sometimes extremely impressive (one ironic note was a perfectly matched runby sound track for a black and silver GS4 with the chatter of motor-drive 35mm cameras in the photo line; do you suppose a 1981 4449 provided that sound?).

Each "film" on this tape runs about eight minutes, and each focuses on its own subject matter. The "Bay Area Commuters" begins with footage of the Oakland ferries and then moves to San Francisco for the commuter parades out of Third & Townsend where "trains to San Jose departed at three-minute intervals." Included are 4-8-2s, ex-SSW 4-8-4s and both black and orange GS's. "Small Engines" looks at switchers, a 2-6-0 on a fantrip and working a yard, and various 4-6-0s. "Pacifics to Mountains" includes SP and ex-SSW 2-8-0s, Pacifics, Mikes—including one at Dorris with a whaleback tender—"Prosperity Special" 2-10-2s and the 4-8-2s. "The Big Ones" lives up to its billing with numerous 4-8-4s from non-streamlined to black GS's and full orange *Daylights* as a prelude to 2-8-8-4s pushing on the Alturas line and on the point in New Mexico. Then it's Cab-Forwards in both freight and passenger service, including one scene with a Baldwin AS616 diesel demonstrator being met by a doubleheaded Cab-Forward and black *Daylight*—awesome!

The sound dubbing is respectable, and the narration does a good job of describing the action. These subjects are available separately on film or tape or combined in the one $39.95 tape. See Sunday River's ads or list for full details—J.B.

Camera Bag

BY JIM BOYD

Tape/slide productions—III

In the January and March 1985 issues, we were discussing tape/slide presentations, focusing primarily on my "first-generation, non-turbocharged" productions using a single manually-advanced projector and a cassette tape for sound. This is a very basic but highly effective format that requires the operator to learn and know the program—I can't give one of my programs to someone else to run, because they won't know when to change slides and won't know what slides go with any given portion of the soundtrack. (I am constantly amazed that I can remember the timing on a 900-slide show and run it with about 98% accuracy every time—and very often the error is so subtle that the audience is never aware that there was a mistake.)

If you intend to do a lot of tape/slide shows, you can make the programs much more automatic by investing in the necessary audio-visual hardware. The first step beyond my tape set-up would be to buy a mixer for making your tape. At a reader's suggestion, I checked out the local Radio Shack store and discovered two fine "sound board" mixers that will permit mixing a combination of mic, record and tape inputs onto one tape, with individual level controls for each (I "mixed" my sound by putting the mic on one channel and the music on the other and using the right/left volume adjustments to set the relative levels). The Radio Shack 32-1105 sells for $24.95 and will mix four inputs, which should be fine for a typical railfan show. For $69.95, the bigger 32-1100 will mix five inputs and adds cue/monitor and headphone monitoring capability plus VU meters on the output—I'd opt for the big one and plan to get one myself.

The obvious next step up on the visual side is to add a fader and second projector. Adding a second projector without a fader is hardly worth the effort, for all you gain is the ability to superimpose one image atop the other—for titles, for instance—and the ability to cover-up with one projector while you change the reel on the other. Manually operating two projectors, however, is tricky, and the chance for error by getting them out of sequence is greatly increased.

With most faders, you dim or brighten the bulb on each projector individually and advance the slides when it is dark (this sometimes requires wiring modification within the projector so you can dim the bulb without slowing down the cooling fan as well). The faders are arranged so that one projector is dimming while the other is lighting up, creating a pleasing dissolve on the screen. Either projector can, of course, be advanced normally as well. This gives the producer the ability to "dissolve" or "cut" to change slides on the screen, and the dissolves can be very quick or extremely slow, for appropriate dramatic effect. Slide programs using two projectors and a fader unit produce the most professional end result.

Unfortunately, I have had little personal experience with fader units and can give no first-hand advice. However, my friends in the North Western Illinois Chapter NRHS have been working with fader units for some time. When they first began about ten years ago, they used the "Popson Mark I," custom made by member Jim Popson, as an alternative to the commercial units then on the market in the $400+ range. In 1983 they bought a commercial unit that is typical of the technology available today. The "Gemini 2000," made by Pacific Micro Systems Inc., 160 Gate 5 Road, Sausalito, CA 94965 (415/331-2525), is a programmable unit that puts a command track on the tape and will coordinate two projectors. This unit is programmed in real time and will remember the position of up to 100 slides per reel on each projector. Changing reels automatically "zeros" the code—you can even rewind and restart the tape, and the Gemini 2000 will automatically back up the reels to find the correct slide! It has an adjustable rate-of-fade from

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1/10th of a second to five seconds. The chapter purchased the unit in 1983 for about $525. The only drawback they report is that it requires a reel-to-reel recorder, as the "beeps, squawks and squeels" of the command track will bleed over on a cassette.

If any readers would care to supply details on other fader units, I will be happy to discuss them in a future CAMERA BAG.

Meanwhile, I received a letter from Bruce Van Sant of Oceanside, N.Y., who has some good advice on the subject of tape/slide shows. He sums things up pretty well:

"As a veteran of over 20 rail slide programs in my job with Amtrak and in my personal pursuits, I have a few comments on slide/tape shows. The programs I've done tend to use an artistic approach. My best-known production is a PC-Conrail-Amtrak electric extravaganza called 'Under The Wires,' which, to use your terminology, falls into the category of the 'high-tech' presentation. I use twin projectors and a fader, along with a four-speaker sound system for the music, which is the key force in this program.

"Concerning tape/slide shows in general:

"1. **The Basic Element**—First and foremost, you must have the pictures! A show should be impressive in 'first-generation, non-turbocharged' form before technology or gimmickry is introduced. Once you've got a solid foundation, *then* bring in the faders and other devices. Technology can make a good show great; it can't make a poor or mediocre show good.

"2. **Music To Your Ears**—Used properly, music can be a powerful tool to stimulate your audience and touch their souls. Remember, though, it is an *enhancement*, not a cure for a weak program. Consider your audience's preferences very carefully when choosing music for a program.

"3. **Empathy Factor**—Gear your program to your audience. Narration that would be appropriate for a community group would probably insult the intelligence of a group of rabid railfans. Avoid the use of jargon unless you're certain your audience will understand.

"On the high-tech approach:

"4. **Testing, 1-2-3!**—Pre-test all your equipment, and know it thoroughly (if you don't, who will?). Develop a system for set-up and tear-down. For example, here's mine: (1) Sound system. Position speakers, connect cables to amp and test. Put on muzak tape to entertain while setup proceeds. (2) Projectors. Position, connect power cords, focus. (3) Fader. Connect to projectors. Power up and cycle once. If everything's okay, then . . . (4) Bombs away!

"5. **The Boy Scout Oath**—Be prepared! Have spare bulbs, extra audio cables, extension cords and spare soundtrack tape. If possible, check out the meeting room in advance. I find that when I'm prepared properly, my head is clearer on show night. I can relax, which lets me do a better job of giving the program. That's what it's all about, anyway, isn't it?

"I highly recommend the relevant chapter in the *NWI Guide to Rail Photography* (North Western Illinois Chapter NRHS, P.O. Box 5632, Rockford, IL 61125; $3.25 postpaid) for other incisive comments on this topic."

Carl Loucks

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Transit Currents

Washington Metro opens

On Saturday, December 15, 1984, the Washington Metro Red Line opened four new stations in Montgomery County, Maryland. This pushed the line from Grosvenor, which extension had been opened from Van Ness-UDC on August 25, 1984, to White Flint, Twinbrook, Rockville and Shady Grove. Shady Grove is the terminal station and includes a service yard. The extension adds 6.9 miles to the rail line at a cost of $278 million. The new total is 60.46 miles completed of the system planned for 101 miles.

Always wanting to make a fun thing out of an occasion, the Washington Metropolitan Area Transit Authority provided free rides at the four new stations. There were also hot air balloon rides and refreshments.

Many dignitaries were on hand, which is a good indication of the interest and importance given to Metro's extension. These worthies included Maryland Lt. Governor Joseph Curran, State Comptroller Lewis L. Goldstein, Senator Paul S. Sarbanes, and Viola Hovesepian, the Mayor of Rockville. Carleton Sickels, Chairman of the Washington Suburban Transit Commission, urged the crowd on with—"Give me an M! Give me an E! Give me a T!" Yes . . .

About 26,000 people showed up for the free rides. As a Christmas present to the folks of the upper part of Montgomery County, the Red Line extension may haul many more than that each day when there is a fare levied. From Rockville to Metro Center in the heart of the District of Columbia is a 30-minute ride. Connecting buses both by WMATA and by Montgomery County's Ride-On bus system make access easy, and there are over 5,000 parking spaces at the four new stations. Marion R. Zych, Jr., sent the information on this, and he notes that the Rockville Metro station is located at Hungerford Drive and Park Road along Maryland Route 355. The city's historic Baltimore & Ohio railroad station was moved a block away to make room for the new Metro station. B&O/MARC commuter trains and Amtrak have stops at the Rockville Metro station.

Oh, yes, Mr. Zych notes that the new extension offered free rides only an opening day. During the rush hour the fare from Shady Grove to downtown Washington will be $2.40 one way. Off-peak, the fare is 80 cents.

Pittsburgh misses a date

In case you hadn't noticed, the originally-promised Thanksgiving 1984 opening of the subway in downtown Pittsburgh didn't happen. By the end of 1983 the concrete box of the one-mile-long tunnel between 6th and Liberty Avenues in the heart of Pittsburgh's Golden Triangle was completed two weeks ahead of schedule. This encouraged the Port Authority of Allegheny County to feel a Thanksgiving 1984 opening was, indeed, possible.

Since the completion of the basic tunnel, however, things have not gone too well. As has been its wont these last four years, the Urban Mass Transportation Administration has dragged its heels unmercifully in getting the money out to Pittsburgh. Slowing down the flow of federal money means that the contracts for completion of the subway have to be cut into smaller chunks with more administrative hassle and derring-do required. For example, the original five-year schedule was extended by three years and the number of contracts increased from 61 to more than 130. Cost overruns have also been experienced by the project. The guesstimate now is that the downtown subway portion of the line will open in the summer of 1985. After the downtown subway is done, there await upgrading and building of a tunnel in the Mt. Lebanon-Dormont area. Completion of the entire light rapid transit project is now expected to take place in 1986. Thanks to Norman Hedding for the news.

New Orleans landmark

The American Society of Mechanical Engineers, at its winter annual meeting on December 9, 1984, designated the St. Charles streetcar line in New Orleans as a National, Historical, Mechanical Engineering Landmark. The St. Charles Avenue line began operating in 1835 and was actually one of the first—if not the first—interurban steam railways in the country. When originally built, it provided transportation between New Orleans and the up-river town of Carrollton. Through the years, the line has used various means of propulsion, including horses, mules, steam engines, ammonia engines, steam dummy engines and, of course, electric cars. The information is sent by David E. Crawford.

Line to Midway Airport

Dennis Ryan sends information that the design work on the proposed rapid transit line from downtown Chicago to Midway Airport has gotten underway. The path chosen is dubbed by planners the 49th Street-Midway Route. This particular line is expected to provide reliable and efficient transit service to the greatest number of potential riders and be the most cost effective.

The new line will begin at Midway Airport and head northeasterly, paralleling the Indiana Harbor Belt Railroad on either an elevated structure or railroad embankment. One block east of Lawndale Avenue, the line will turn east and follow the Conrail right-of-way (49th Street) to a point approximately 1/4-mile east of Western Avenue; here the line will turn north to Archer and Western Avenues, following the Conrail trackage on either an embankment or structure. The line will then turn to the northeast, proceeding on railroad embankment just north of Archer Avenue to Canal Street; it will connect with the existing elevated structure at 18th

BY GEORGE M. SMERK

to Shady Grove

Street. There will be eight new stations on the line, which will be connected through the Loop elevated structure to the Lake Street line.

When this line is completed, probably in about six years, Chicago will have both its airports served by rail. Philadelphia should have its rail link to the airport open in 1985, and Atlanta hopes to have its link to the Hartsfield Airport by 1990 or 1991.

Philadelphia's Allegheny Avenue

Philadelphia has an ambitious plan to upgrade Allegheny Avenue from Port Richmond on the east to 32nd Street on the west. Trolley Route 60 operates on this street, and the city proposes that the line be developed as a light rapid transit line. Unlike many of Philadelphia's streets, Allegheny Avenue is quite wide, and there should be adequate room to provide linear separation of the rail right-of-way from adjoining traffic.

It is expected that the light rapid transit line would be useful in providing an improved connection between the Frankford elevated and the Broad Street subway. The project is not a sure go yet; however, funding from state and federal agencies is now in the process of being obtained, and Mayor Goode is pushing for the Route 60 upgrading and the refurbishment of all the North Philadelphia streetcar operations.

Mind the quality

A recent visit to Toronto confirmed my thinking that the Toronto Transit Commission probably runs the best transit system in the new world, if not the whole world. Quality counts because 1983 showed an all-time record ridership of 405,746,000, which is 4½ million more than in 1982. In the really good news category, TTC covers more than its revenue target of 68% of operating expense.

The Intermediate Capacity Rapid Transit System on the new Scarborough rail line, from Kennedy Station at the east end of the Bloor-Danforth subway to Scarborough Trans Center, should be in service sometime in 1985.

High on the list of capital improvements for keeping TTC performance high is the purchase of 52 new articulated light rail vehicles. Developed by the Urban Transportation Development Corporation (a crown corporation of the government of Ontario) the new articulated streetcar has been tested out for several years. The TTC has also been testing articulated buses, and an order will probably be let for the bendable buses in 1985.

Still gracing the rapid transit system are the superb 1954 subway cars built by the Gloucester Railway Carriage and Wagon Works of Birmingham, England. Nothing, however, lasts forever; a contract was just signed for 126 new subway cars to continue the process of replacing the 30-year-old Gloucester cars.

TTC does its job with 1470 buses, 630 subway cars, 306 streetcars and 150 trolley buses. A vehicle Fleet Mix Study was carried out in 1983, and apparently trolleybuses did not rank well. Cost, service to passengers, operating flexibility, maintenance requirements and environmental considerations were factors examined by the study. Streetcars scored very well on high demand routes, and diesel buses were the most cost-effective in lighter demand situations. Another study showed the need to add rapid transit capacity downtown to relieve overcrowding on the Yonge Street Subway, which is now at capacity between Bloor Street Station and Union Station. A new subway running in the Don Valley from either Pape or Donview Stations will be looked at seriously.

If you haven't gone to Toronto to ride the TTC, do so at once, and you'll find out the way the Good Lord intended a transit system to work.

New York subway tunnel

Beginning in 1971, a subway tunnel was constructed from 57th Street in Manhattan up to 63rd Street and then under the East River to Queens. Part of this subway is a tunnel carved through solid rock, and part of it is in 375-foot long pre-fabricated tunnel sections which have been sunk under the silt of the East River. As of the fall of 1984, it was expected that there is still a year to go before the subway will open. Lamentably, there is now a serious question about whether or not there will be enough riders to make the new tunnel worthwhile to operate. The current terminal is to be in Long Island City, Queens. Less than 220 passengers an hour are expected to use the new East River tunnel until and unless it is extended farther into Queens as was originally proposed.

When first under way, the 63rd Street subway was supposed to stretch across the borough of Queens to relieve the overcrowded conditions on the E and F subway lines. Things looked pretty good in a financial sense at that time; the financial situation is fairly bleak at present. More than $600 million has already been spent on the tunnel, and much more money will be needed to achieve any of the four service alternatives now under consideration. The Queens Bypass Express would provide an express connection between Manhattan and the far reaches of Queens. Most of it would run along the main tracks of the Long Island Rail Road. It would, indeed, relieve the severe congestion on the E and F lines as originally intended, however, it would cost $931 million and take about 14 years to build. The second alternative, the Queens Boulevard Line Local

PLEASE SEND traction news and correspondence directly to Prof. George M. Smerk, Institute for Urban Transportation, 809 E. 9th St., Bloomington, IN 47405.

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Transit Currents

Connection, would be the cheapest to build, at a cost of about $222 million, and it expected it could be completed by 1993. It is the least effective of the alternatives in alleviating the overcrowding on the E and F lines. The third option is the Montauk/Archer Avenue Subway Connection, which would use the Long Island Rail Road's freight tracks. From the 63rd Street tunnel a connection would be made to the Sunnyside Yard; the line would then continue along existing railroad tracks to the Archer Avenue subway. This would cost $594 million and would not be finished until 1997. There are strong objections from residents along this route.

There is one final option: no construction whatsoever. The second option, the Queens Boulevard Local Connection, would use only about one-third of the capacity of the 63rd Street tunnel, and future expansion of the subway system in Queens would not be likely. This option would also not open new areas of Queens to subway service. Both the Permanent Citizens' Advisory Board and the Regional Plan Association, a nonprofit planning group, have endorsed the third option, which is the Montauk/Archer Avenue Connection. Even after an option is selected, there still remains the question of money. The Metropolitan Transportation Authority now has an $8.5 billion capital plan under way, but that is to rehabilitate existing subway and other rail facilities—not to construct new ones.

New York is beset with so many problems in transit that it is hard to focus on any one as being the most serious. Add to the potential 63rd Street tunnel fiasco the construction that was started and then stopped years ago on the Second Avenue subway, which was supposed to alleviate the enormous congestion on the Lexington Avenue subway. There was a chance that the Second Avenue subway would also connect with the 63rd Street tunnel to provide major relief and to make major use of the expensive new East River crossing.

At one time there was even talk of bringing some Long Island Rail Road trains through the tunnel and into Grand Central Station. This would provide more direct connections with the booming office growth on the east side of Manhattan that is more conveniently served by commuter trains running into Grand Central than to Penn Station on the west side of the island. Clearly, there is much to think about.

Jonathan Goodman was kind enough to supply the information.

Ottawa busway problems

I got a very nice letter from Brendan B. Read of Ottawa, Ontario. The Ottawa-Carleton Transit Authority is constructing a buses-only transit way. In the intellectual lexicon of what-do-you-use-where in transit, the busway is usually considered to be a good, strong first step toward what will eventually become a light rail line should sufficient demand develop. Mr. Read says that, unfortunately, OC Transpo is facing a $135 million cost overrun on the project, which includes $67.2 million of to-date unexplained overruns. There has been much controversy, including one about a piece of line built in a trench on an abandoned Canadian Pacific right-of-way. Ottawa has a very heavy winter snowfall, and the trench or cut is constructed with perpendicular concrete sides—consequently, there is no place for plowed snow to go.

OC Transpo plans to make whooppee in an exhibit for the Houston transit authority for the purpose of thumping the tub in favor of busways. Busways do have a role in transit, but one had better be careful in planning and execution. A well-conceived busway has the potential of improving service to the public so that demand may be developed to the point where light rail transit may be needed and justified.

Mr. Read also sends word that the Commission de Transport Communaute de la Region Outaouais in Hull, Quebec, is undertaking a preliminary study of a commuter rail line linking the Outaouais region with Ottawa. It appears as if the BRE-Leyland Railbus brochure got into their hands!

Twin Cities news

George K. Isaacs sends me all the news from Lake Wobegon. The attitude is growing more favorable in the Twin Cities for light rapid transit in three corridors. This is a nine-mile line between Minneapolis and St. Paul along the University Avenue Corridor, which would cost $114.7 million; the Southwestern line, extending 18 miles from downtown Minneapolis southwest to Excelsior, which would cost $108.7 million; and a line from downtown Minneapolis past the airport to Bloomington, which would reach out eleven miles and cost $148.6 million. A mile of line in downtown Minneapolis would cost $9.6 million, a sum which does not include a possible subway tunnel.

Increased congestion is one of the reasons that the leadership of the cities are beginning seriously to consider light rapid transit. George Isaacs writes that whether or not LRT will happen in the Twin Cities depends on what the state legislature does in its session beginning in January 1985. Perhaps the Lake Harriet museum streetcar will soon have some new cousins rolling through the land of Powdermilk Biscuits. Perhaps some day LRT might reach all the way to Lake Wobegon!

Georgetown & Foggy Bottom

A study is going to be carried out by Bechtel Civil & Minerals, Inc., of an idea to develop a 13-mile trolley system connecting Georgetown, Foggy Bottom, DuPont Circle, and the Adams-Morgan communities as a complementary system to the Metro subway in Washington, D.C. The promoters received $250,000 in federal money to study the idea, but their aim is to develop a trolley transit system that would support itself out of the farebox. Nothing is very definite yet, including whether or not it would be a trolley. Remember, federal law prohibits trolley wire in downtown Washington. If there ever is streetcar service revived in the area under question, it would likely have to be operated

by the underground conduit system formerly used in Washington.

The information was supplied by Foster Morrison.

Flashes

Bill Crawford sends news from the **BOSTON** area that December 8, 1984, was the date of the opening of the Red Line station at Porter Square in Cambridge and Davis Square in Somerville. The Alewife Brook Parkway station is scheduled to open in April 1985. This is part of an upgrading and expansion of the Red Line subway system in the Boston area that has been reported here ealier.

The **FT. COLLINS** Municipal Railway Society did what it had promised and completed work on the track, overhead and car by December 31, 1984. Indeed, they were able to invite people out for demonstration trips on December 29. Once again, a Birney was rolling the streets of Ft. Collins, Colorado. Congratulations!

Jim Cerny sends bad news about Port Authority Transit in **PITTSBURGH**. The PAT is facing a budget deficit and is now discussing service reductions of as much as 37%. Cut-backs would include the McKeesport commuter train, elimination of many bus routes, cutting all service on weekdays after 9:00 p.m. and reducing Saturday and Sunday service by over 50%. Trolley service on Saturday and Sunday might also be cut. The sad part is that PAT has probably never been in better physical condition to offer good service. He also writes that PAT is testing seven of its new cars as 1985 began. The downtown subway opening may be delayed from May until July because of finanacial problems.

Lawrence Beattie reports that the **STATEN ISLAND** Rapid Transit is continuing its rehabilitation program through the winter of 1984-85. Many ties have already been replaced along with running rails and contact rails. The roadbed is beginning to receive attention.

Vernon Ikeda writes from **MONTREAL** that Transport 2000, a public transit users advocacy group, has been pushing to get new equipment for the CN-operated electric commuter rail service. Montreal Urban Community is to start a series of public consultations on the matter early in 1985. New equipment is badly needed; some of it dates back to World War I.

Increasing pressures on trans-Hudson crossing are pushing more and more for a greater use of transit. The reason: A greater number of New Jerseyites are working in Manhattan as the job composition changes increasingly from manufacturing to white-collar jobs. Port Authority Trans-Hudson is ordering new cars in order to run longer trains. N.J. Transit will attempt to get more people to ride the rail commuter service in the Amtrak corridor into Pennsylvania Station, and complete electrification oi the New York & Long Branch is a possibility. A return of the commuter service to the old New York Central West Shore line is being discussed, along with a new ferry service. Jon Goodman sends the information.

The **NATIONAL CAPITOL** Trolley Museum is planning a trolley car spectacular for Sunday, April 21, 1985, from 1:30 to 3:30 p.m. All the museum's operable cars will be in action or display. The museum is located in the northwest branch regional park For information, call 202/384-9797.

Up in **PORTLAND, OREGON**, the combined Banfield freeway widening and light rail project is right on schedule. The claim that the system will be finished for the summer of 1986 still appears to hold firm. Work on installing the rail in downtown Portland was suspended for the Christmas season.

From **SAN FRANCISCO**, David Pharr reports that the popular San Francisco Historic Trolley Festival will be held again in 1985, commencing on Memorial Day weekend and ending in October. The cars operate from the Transbay Terminal, up Market Street to 17th & Castro Streets. Market Street is currently being rewired to permit two lanes of trolley coaches to operate in each direction. Heavier light standards and support poles are being placed to handle the increased weight. The trolley festival cars will share loading islands and one wire with the inside lane of trolley coaches beginning next summer.

Mr. Pharr also reports that the body shells of six cars for the San Francisco to San Jose commuter service along the Southern Pacific—the so-called Caltrain—have arrived at San Francisco's Pier 50. The gallery type cars (September 84 R&R, page 29), which seat up to 148 passengers, were manufactured by Nippon Sharyo Seizo Kaisha Limited. The wheel and axle assemblies were also made in Japan. This is very similar to the way the new cars of the South Shore railroad were delivered from Japan. At Pier 50 the cars will be completed by the installation of all U.S. built components. A grand total of 63 cars will be in service; 42 are conventional passenger cars, and 21 are cab control cars for diesel-powered push-pull operations. The new cars are 85 feet long and 15 feet 11 inches high and weigh in at 123,000 lbs.

From beautiful **SEATTLE** Bill Stanley writes to tell us about a proposed aerial tramway, much like a ski gondola, that would operate between the Pike Place Market and a pier on the waterfront. Pike Place Market is about 100 feet above Alaska Way and the piers along that street. I can vouch that it is a tough hike. The tramway is estimated to cost $2.5 million and would tie-in with the $10 million re-development project underway at piers 62 and 63. The lower terminal on the descent from Pike Place Market would be at pier 63. The popular Seattle Trolley operation runs along Alaska Way.

Bad news. The **REAGAN** Administration's fiscal year 1986 budget calls for a cut of 67% in the federal mass transit program; the reduction in funding would be from $4.1 billion to $1.4 billion. There would be no new rail starts after fiscal 1986, and interstate transfer grants for transit would also be terminated. These programs have been responsible for much of the renewal in interest in rail transit in the U.S. Let your Senators and Congressman know how you feel.

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Railnews

BURLINGTON NORTHERN ADDS COLOR In early February 1985 SD40-2 8002 rolled out of the Havelock paint shop in Lincoln, Nebraska, wearing an experimental new BN paint scheme. With the basic carbody remaining in green and black, the 8002 has its nose stripes rendered in orange and black. Additionally, the lettering has been altered to put the road number on the cab side and a large BN herald and spelled-out name on the long hood. The purpose for the new scheme is better grade crossing visibility—the Chicagoland commuter E-units have had a similar treatment with orange and white stripes for many years. No photo of the 8002 was available at press time.

Now if we could just convince Norfolk Southern that black units can be hazardous to your health. . .

CENTENNIALS RETURNING TO SERVICE Doug Harrop, author of "Centennial Summer" in the March 1985 R&R, reports that the big DDA40X units are being returned to service on the Union Pacific. As of mid-February, about 15 are running again, with five of them reportedly equipped with receivers for the "EOT" end-of-train devices used on cabooseless trains. He has already seen a number of trains with Centennials in the lead.

CONRAIL AND NORFOLK SOUTHERN On Friday, February 8, Transportation Secretary Elizabeth Dole recommended that the government sell its 85% stock in Conrail to the Norfolk Southern Corporation. The NS had been one of three bidders in the final running for Conrail, the other two being Alleghany Corporation and a group headed by hotel owner Bill Marriott. All bids were in the $1.2 billion range plus a variety of other considerations.

Norfolk Southern agreed to pay a minimum of $1.2 billion for the Conrail stock and give up a $2.1 billion tax loss carry-forward and $275 million in investment tax credits. No dividends will be paid to NS from the $800 million Conrail has in the bank, and a series of major routes will be opened up to competitors like the P&LE, GTW and Guilford.

Just because Secretary Dole has endorsed the sale does not mean it will happen. The actual sale must be legislated by Congress, and the opposition was immediately loud and vocal. Conrail boss L. Stanley Crane is still pushing for a public sale of the stock, and the unions, who hold the other 15% of the Conrail stock, have endorsed the Alleghany offer. CSX Corporation, Norfolk Southern's largest regional competitor, has vowed that it will "fight the sale with all the resources at our disposal."

If the sale goes through, though, some big numbers will result. The NS/CR would have 31,500 route miles, almost $7 billion in revenues, close to $1 billion in earnings, 77,000 employees, 5971 locomotives and 250,000 freight cars. The motive power fleet would comprise 25% of all locomotives in the U.S., and nearly 25% of all Class One freight equipment.

The purpose for selecting Norfolk Southern is that it is a corporation already profitably involved in railroading and is heavily committed to railroading as its primary business for the forseeable future—there is little chance that Conrail could go bust again as part of NS. One thing that Secretary Dole seeks to accomplish is that Conrail never again be in a position of needing another federal bail-out—WALTER A. APPEL.

SOO LINE AND MILWAUKEE ROAD February 8 was a big day for merger news. On the same day that the NS-Conrail sale was announced, Judge Thomas R. McMillen in Chicago recommended that the Soo Line be allowed to acquire the Milwaukee Road. The Soo was bidding $571 million against $786 million offered by the Chicago & North Western. Judge McMillen cited maintaining competition as the primary reason for his decision. He stated that the C&NW-Milwaukee combination would lead to major trackage abandonments since the roads share many of the same terminal cities, lessening rail competition in the Midwest.

The Chicago Milwaukee Corporation, parent of the bankrupt Milwaukee Road, was stunned and vowed to fight the decision, seeking the highest possible price for its now-money-making railroad. One option would be to bring the road out of bankruptcy and therefore out of the jurisdiction of the bankruptcy court, but the C&NW may have inadvertantly thwarted that move by immediately announcing that it was withdrawing its offer and would not appeal.

As the initial commotion dies down, it looks like this one will go through, though the outcome is far from guaranteed. The Milwaukee Road employees are much happier at the prospect of joining with the Soo than they had been with the C&NW. Had the C&NW taken over, for instance, Bensenville Yard and the Milwaukee main line to Savanna, Ill., would likely have been promptly closed down. Merger with the Canadian Pacific-controlled Soo Line would be much more of an end-to-end situation, opening up new territory for the Soo—WALTER A. APPEL.

REAGAN VS. AMTRAK The statement from Amtrak is blunt: "The Administration has proposed to eliminate all federal funding for Amtrak in Fiscal Year 1986. If this proposal is adopted, all intercity rail passenger service in the nation will cease on September 30 of this year."

The statement continues, "There is a strong case to be made for continuing Amtrak's operations. Rail passenger service plays an important role in our intercity transportation network, and Amtrak's sustained progress in improving its service and reducing its dependence on federal funds shows that additional federal support will pay great dividends in the long run. In 1986 we expect to cover at least 60% of our costs through revenues, compared to 48% just four years ago. In constant dollars, our operating costs for the current year are 26.6% below the level of FY 1981. Our equipment is all new or thoroughly refurbished, and passenger satisfaction with our service has never been higher."

Is Amtrak really facing extinction? The fact is that in the short term, it would cost almost as much to scrap Amtrak as it would to keep it running, since labor protection agreements would cost at least $2.1 billion in guaranteed severance pay—money for which there would be no service rendered. The amount owed the first year would be $600 to $800 million, just about the same as the 1985 Amtrak subsidy of $684 million. With no passenger service left, the resale value of the Amtrak equipment would be minimal—though it would be an incredible windfall for VIA Rail and would solve Canada's equipment problems in one swoop. Total abandonment of Amtrak would destroy a workable rail system that could never again be economically restored.

Amtrak points out that its operating subsidy per passenger, about $34, is not out of line with those for other modes of transportation. "For each airline passenger, federal tax expenditures due to business travel deductions alone average $33. If all federal support for such services as air traffic control were included, the federal cost per airline passenger would be considerably higher than Amtrak's." As Amtrak points out, "There is a big difference between avoiding an expense and liquidating a going concern with over $3 billion in capital investments and over 20,000 skilled employees."

The Amtrak subsidy must pass through Congress, and its one advantage is that Amtrak touches home districts of just about everybody on the Hill, so opposition to killing it will be strong from the grass roots—it would be a highly visible loss everywhere. The sentiment around Washington seems to be that Amtrak will take a budget cut and will probably have to belt-tighten and lop off some of its marginal performers, but overall it should survive. Let's hope they're right.

Meanwhile, let your representatives in Washington know how you feel. Our grass roots come up through the ballast.

AMTRAK TO TEST A.C. Amtrak has announced that it plans to purchase and install a prototype alternating current traction drive system in one of its F40 diesels. The Brown Boveri a.c. system consists of solid state inverters, switch gear and three-phase asynchronous motors which will be driven by the F40's standard AR10 traction alternator and 645 diesel. Some carbody and truck modifications will be made.

The a.c. induction-motor systems have been tested extensively and successfully in Europe for increasing acceleration, tractive effort and operating speeds while reducing maintenance. The a.c. motors have fewer moving parts, less rotating mass and higher current-carrying capabilities than existing d.c. motors.

EX-AMTRAK SDP40F 643 is the first of 18 such units to be modified for freight service by the Santa Fe's San Bernardino Shops. The refurbished 5250 posed for her formal portrait at San Bernardino in February. The SDP40Fs were initially to be numbered with the rest of the Santa Fe's cowl units until someone realized that these were '40s and not '45s. The AMTRAK CF7S that were acquired in trade for the SDP40Fs have begun showing up in the Northeast. The 588 (ex-AT&SF 2460) was at Boston's South Station on February 7 (below). One of the first reported repaints of the ex-AT&SF group is SSB1200 562, shown (below right) at Wilmington, Del., on December 26, 1984, in a simple platinum mist with black top, frame and lettering.

GREG NAZAROW

TOM HIGGINS

CHROME LOCOMOTIVE Heralding a new direction and emphasis for the company, the Chrome Crankshaft Locomotive Sales Company has changed its name to Chrome Locomotive Inc. A rebuilder and dealer in used locomotives, "Chrome Crankshaft" got its name from the technique it used to refurbish crankshafts—plating them with chrome to replace the worn steel and then machining them to like-new specs. A subsidiary of the Varlen Corporation of Rolling Meadows, Ill., Chrome Locomotive is probably best known for its huge facility in the old Rock Island Silvis (Ill.) Shops.

AMTRAK CF7S In September 1984 Amtrak acquired 25 CF7s and 18 SSB1200 switchers from the Santa Fe in exchange for 18 SDP40Fs (R&R January '85, page 34). As of early February the first of the CF7s were entering service in the Northeast, as exemplified by the 588 assigned to Boston's South Station on February 2. It has been working alongside the EMD-ized RS3 104 (in full platinum mist colors) and a variety of black pure-Alco RS3s. Additional CF7s have been reported in New Haven, Conn., and Wilmington, Delaware. The 588 in Boston was still wearing AT&SF colors with lettering neatly painted out; no CF7s have been reported as of mid-February in a full Amtrak scheme, though SSB1200 562 was spotted in Wilmington in a Spartanized platinum mist with black trim.

EX-AMTRAK SDP40F The first of 18 ex-Amtrak SDP40Fs was turned out by Santa Fe's San Bernardino Shops and went into revenue service on January 31, 1985. The 5250, former-Amtrak 643, received a full overhaul and modifications for freight service which included new handrails fore and aft, a snowplow pilot and modified fuel tank (the barrier between water and fuel compartments was removed resulting in the biggest fuel tank on the system: 4000 gallons). An additional five units are to be completed during each month through April, with the last two in May. They will carry road numbers 5250-5267.

The only disappointing note for railfans is that the Santa Fe has put a ban on all cowl units as lead units on freight trains. Noting the mandatory look-back-to-inspect-the-train rules, especially with caboose less trains, the labor unions pointed out that an engineer or trainman would have to lean out of the cab in a cowl unit, since they have no rear windows, and that it would be potentially hazardous in foul weather. The railroad agreed and issued a ban on cowl units in the lead on all trains, not wanting to make caboose/caboose less an issue.

RE-INVENT THE FL9? After months of delays, N.J. Transit has awarded a $329,000 contract for a study of the feasibility of a dual-power (diesel-electric/straight electric) locomotive, such as the ex-New Haven FL9s now used by Amtrak and Metro North. The one-year study is to be done by L.T.K. Engineering.

N.J. Transit has been under pressure from commuters on the Raritan Valley Line (former CNJ) and Jersey Coast Line (former NY&LB) to improve running times into New York's Penn Station from New Jersey. Presently, there is no through service from the Raritan Valley into New York, as all passengers from the diesel-hauled trains must change to electric trains at Newark. Through service was promised by state officials in 1968 in the Transportation Master Plan, accompanied by a $600 million bond issue—but the through service to Manhattan was never provided.

The dual-power locomotives would also eliminate the engine change at South Amboy for the Jersey Coast trains from Bay Head—the traditional E8s-to-GG1s maneuver, now done with ex-CNJ GP40Ps and E60s. The difference between the new dual power units and the FL9s is that the FL9s "electric" side is d.c. from a third rail, and the New Jersey units would have to be a.c. from overhead—WALTER A. APPEL.

COLUMBUS & GREENVILLE EXPANDS On January 9, C&G Chairman Sam Y. Wilhite announced that his railroad had reached an agreement with the Illinois Central Gulf to purchase 62 miles of

ICG trackage in western Mississippi. The portion of the ICG's old Yazoo & Mississippi Valley acquired by C&G runs from Hollandale north to Cleveland, crossing the C&G at Elizabeth, along with a branch from Leland (crossing the C&G at Stoneville) to Metcalf and into Greenville. This means that the C&G now operates all track in the river town of Greenville, and the U.S. Gypsum plant in North Greenville, formerly served by ICG, now becomes one of the biggest shippers on the C&G. That branch also connects the C&G with another short line, the Great River Railroad, which serves the Port of Rosedale and interchanges at Metcalf. Mr. Sam says the newly-acquired track is in excellent shape and should provide the C&G with approximately 6000 loads of business a year. While the U.S. Gypsum plant is the largest single new shipper, he notes that the rest of the line is "highly diversified, like the rest of the C&G."

The C&G applied to the ICC on January 25 for permission to buy the track and hopes to begin operation by May. It plans to operate the new lines with no additional locomotives or employees.

Also around the first of May, the new Gulf & Mississippi Railway is expected to begin operation of 713 miles of former ICRR and GM&O trackage in Mississippi, Alabama and Tennessee. The C&G and G&M managements expect to cooperate on joint rates and many operational details.

The Columbus & Greenville will now again serve the city of Hollandale, Miss., after somewhat of a respite. The C&G's predecessor company, the Greenville, Columbus & Birmingham, built a branch into Hollandale in 1879, but it was later paralleled by the Y&MV line the C&G just purchased. The old C&G had run its last train into Hollandale on May 27, 1922, and now, after 63 years, it will be returning—LOUIS SAILLARD.

UNION PACIFIC 4-8-4 8444 During the last two weeks of January 1985, there were two 4-8-4s hauling freight consists in the U.S. In addition to C&O/ACE 614T in West Virginia, the Union Pacific was deadheading its 4-8-4 8444 home from the New Orleans World's Fair between January 22 and 31, with a short consist of boxcars in tow. After being viewed by nearly a million people in New Orleans, the 8444's routing to Omaha was well publicized and scheduled in daylight "so as many people as possible" could see its journey. Departing New Orleans on January 22, the engine ran via Longview, Houston and Ft. Worth, Texas; Muskogee, Oklahoma; Osawatomie, Kansas City and Topeka, Kansas; and Lincoln, Nebraska, over MP and UP lines.

The 8444 will reportedly undergo extensive overhaul in the Omaha Shops to continue her career as an excursion engine.

NOTABLE ABANDONMENTS A few pieces of railroad of particular interest to railfans made the news recently. In Georgia, the Seaboard System abandoned the old Georgia Railroad between Milledgeville and Macon on December 15, 1984. This was the route of one of the famous Georgia Railroad mixed trains.

In Wisconsin, a cryptic announcement from Connor Forest Industries stated simply "that the Laona & Northern Railway Company Ceased operations as of January 31, 1983, and all properties have either been sold or abandoned." The line was the home of the "Lumberjack Specials" with 2-6-2 No. 4 to Camp Five Farm, which continue to operate on a portion of the former Laona & Northern, though the common carrier has shut down.

In Maine, the Lewiston Lower yard of the Maine Central, site of the night photo of Geep 572 on the cover of our January 1985 issue, has been torn up. And in Texas, deregulation of railroad rate-making has put the 31-mile Roscoe, Snyder & Pacific out of business. The line, connecting the T&P and Santa Fe, made a living by soliciting bridge traffic between the two giants and taking its cut of the rate. It couldn't compete under deregulation with the two big carriers, which interchange directly only eight miles away at Sweetwater. The RS&P had two orange and black SW1500s when it ended service in June 1984. Your editor confesses that the name of the railroad always conjured up the vision of ol' Roscoe Snyder and his pet 4-6-2.

LOGGING MALLET Members of the Puget Sound Railway Historical Association worked throughout 1984 renewing the boiler of U.S. Plywood 2-6-6-2 No. 11. On Sunday, December 16, 1984, the 1926 logging Mallet returned to life and motion in the shops of the Puget Sound & Snoqualmie Valley in the foothills of the Cascades at Snoqualmie, Washington. The P&SV hauls tourists over six miles of a former-NP branch 30 miles east of Seattle.

The 2-6-6-2 has been out of service since 1981 and was the first superheated boiler rebuilt by the PSRHA group. A Rayonier light 2-8-2 has been providing the power in its absence, along with an ex-Navy Fairbanks-Morse H12-44 and other equipment. The Mallet will be used in regular service on the PS&SV beginning in the spring of 1985, along with a diesel recently donated by Kennecott Copper, Alco RSD4 909—DAN OLAH.

SPENCERVILLE, VERMONT? Two bright red RS3s, still lettered VERMONT RAILWAY, went to work in 1984 on the Spencerville & Elgin in western Ohio. Rendered surplus on the VTR by the acquisition of BN and Conrail Geeps and a TP&W GP18 and SW1500, the RS3s went to the S&E in April 1984 where they now operate out of Ohio City on the former-Erie main line between Lima and Wren, Ohio, on the Indiana-Ohio state line.

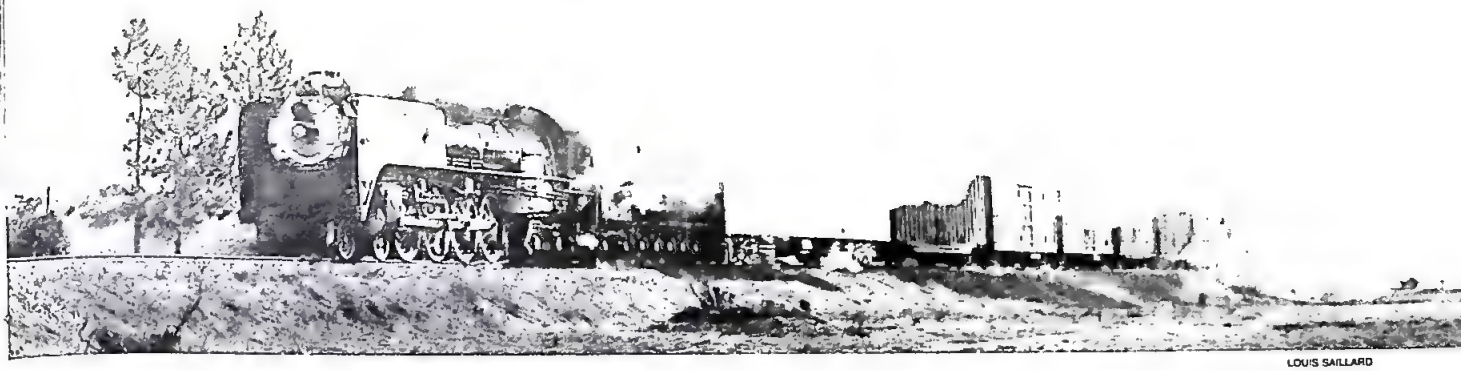
THE RIO GRANDE SKI TRAIN The D&RGW's famous Ski Train began its seasonal operation in January 5, 1985, but with GP40-2s instead of the railfans' beloved F-units. The three covered wagons, F9A 5771 and F9Bs 5762 and 5763, were the exclusive power for the 1984 operations, and on April 8 went into freight and work train service. Their last run was on September 30, 1984, from Pueblo to Denver's North Yard. They have been stored since then at Burnham Shops.

Ski Train operations for the 1985 season will continue as in past years with only minor changes, operating Saturdays and Sundays until March 31. The Mayor's Special, which adds some ex-*California Zephyr* cars to the consist, will run on March 23. The round trip fare has been increased from $12 to $13 for riders of all ages. Departing Denver Union Station at 7:30 a.m. and returning at 6:15 p.m., the train consists of two GP40-2s, an ex-Alco PB steam generator unit, an ex-*Prospector* combine and five to eight ex-NP 1925-era coaches. After climbing the Front Range and traversing Moffat Tunnel, the Ski Train deposits its passengers at the Winter Park Ski Area and proceeds to Tabernash where it is wyed. The train then lays over at Fraser until the 4:00 p.m. departure time—CHIP SHERMAN.

THE STEWARTSTOWN RAILROAD In 1972, Hurricane Agnes washed out several bridges on the Penn Central's ex-PRR Northern Central between Baltimore, Md., and York, Pennsylvania. The line was shut down, isolating the 7.4-mile Stewartstown Railroad that connected its namesake community with the PC line at New Freedom, Pa. Its GE 44-tonner, 10, was trapped in York, above the washouts. Though portions of the old Northern Central near Baltimore were abandoned, state and federal funding was used to refurbish the 20 miles between New Freedom and York, reconnecting the Stewartstown to the "outside world." The Stewartstown will operate the York trackage, and on Monday, January 15, 1985, it made its first revenue run with a flatcar load of lumber. Because of mechanical difficulties with the 44-tonner, Maryland & Pennsylvania NW2 85 was borrowed and "doubleheaded" to the destination at New Freedom. It is hoped that more customers can be developed on the line.

DISPOSITION OF CHESSIE TUGS The Chessie System's four Fairbanks-Morse powered tugs, the subject of Win Cuisinier's feature in the July 1984 R&R, were retired in late July 1984 following the delivery to Newport News, Va., of the new EMD-powered *Seaboard*. By mid-October, all four had been sold to Donjon Marine, a subsidiary of Witte Heavy Lift Co. of Arthur Kill, Staten Island, N.Y.

Subsequently, the *Walter J. Tbuhy* was resold to Boston Fuel Transport, where it has now been repainted red and buff and renamed *Carol Wales*. The *J. Speed Gray* was resold to Penobscot Bay Towing in Maine and is now the *Brian F.* The *M.I. Dunn* and *Howard W. Simpson* are up for sale and presently in the New York Harbor area where the *Dunn* is reportedly being used by Witte Heavy Lift, supplementing the ex-Erie *Elmira* and other vessels in the Donjon Marine fleet—PRESTON COOK.



LOUIS SAILLARD

UNION PACIFIC 4-8-4 8444 was rolling northward on Missouri Pacific track at Luling, La., on January 22, 1985, en route from the New Orleans World's Fair to the UP's Omaha shop for overhaul for continued excursion service. During this week both the UP 8444 and C&O/ACE 614T were hauling freight consists.

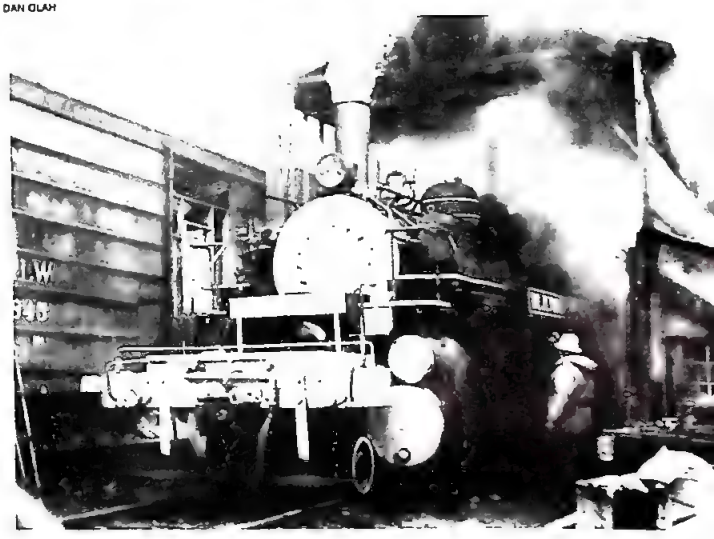
DOUG LEFFLER

SPENCERVILLE, VERMONT? Still wearing its Vermont Railway colors and lettering, RS3 606 pauses on the old Erie R.R. main line in front of the Spencerville, Ohio, depot on October 14, 1984. The 606 is one of two RS3s acquired by the Spencerville & Elgin in April 1984, the other being ex-VTR 603.

THOMAS W WOLFGANG

THE STEWARTSTOWN RAILROAD returned to life on January 15, 1984, when borrowed Maryland & Pennsylvania NW2 85 doubleheaded with ailing Stewartstown 44-tonner 10 to deliver a load of lumber to New Freedom from York, Pa., the first since the line washed out in 1972.

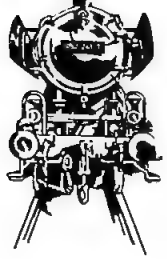
DAN OLAH



LOGGING MALLET, U.S. Plywood 11, is back in service after a complete overhaul at the Puget Sound & Snoqualmie Valley in Washington. The 2-6-6-2 was pulling out of the shop on December 16, 1984.

THE RIO GRANDE SKI TRAIN made its first run of the 1985 season on January 5 with a pair of GP40-2s instead of the traditional RGZ F-units. It's shown here beginning its assault on the Front Range.

WILLIAM BOTKIN



In Search of Steam

BY MIKE EAGLESON

South Africa's Super 4-8-4

Today's conditions are ripe for the resumption of the long-suspended development of the steam locomotive. The involvement of engineers David Wardale and L. Dante Porta in the ACE 3000 testing of 4-8-4 614T in West Virginia in January 1985 (see page 38) is a strong indication of just how this may take place in the U.S. if the funding can be raised. Within the past five years, both men have worked on actual locomotives in South Africa that utilize many of the principles proposed for the Mark I, the first ACE prototype locomotive.

In South Africa, diesel fuel must be imported and costs roughly 30 times that of equivalent local coal. Thus for most applications, conventional steam is more economical to operate than diesels. With the cooperation of the South African Railways, Wardale and Porta have demonstrated in a convincing fashion that there is still plenty of room for meaningful improvements in conventional steam technology.

A modern Mountain

Starting in early 1979, the South African Railways, under the direction of Mechanical Engineer David Wardale, incorporated the latest principles of Design Engineer L. D. Porta into the rebuild of 19D class 4-8-2 2644, a notoriously bad steamer. By June 1979, the Mountain was steaming at better than 17% more power, while burning 20-25% less coal—definitely outperforming her former identical sisters. Simply stated, these achievements were made by the following improvements:

The single-chimney blastpipe was replaced by a double Lempor exhaust, each with four oval-shaped nozzels which eject into a separate chimney. The smokebox was extended by one foot, and asbestos gasket seals were applied to the smokebox door to prevent air from being sucked into the chamber. A suspended metal baffle across the tube bank diverts a large portion of the gases through the superheater flues to increase superheat temperature and efficiency.

The firebox grates were lowered about two inches and allow less air to enter from the bottom. The most combustion comes from secondary air entering *above* the firebox through 14 air ducts (six on each side, and two on the backhead). Added to this are four superheated steam jets to create strong turbulence. Fewer clinkers result in this method, and coal gases are burned fully above the firebox.

In addition, a new vertically-sliding firebox door, sanding improvements and increased adhesion by redistribution locomotive weight all add to better performance. De-sanding jets operate from the trailing truck to wash sand from the track. This operates automatically whenever sand is applied.

In December 1979, the 2644 showed better than 15% savings in coal and water in service between Mafeking and Pudimoe, compared to unmodified members of her 19D class. On a personal test made by Mr. Wardale, savings were increased to 25%. On January 30, 1983, the 2644 was running on the Mafeking-Kimberley mixed.

The "Red Devil"

Partly due to these successful results with the 2644, a standard 25NC (non-condensing) 4-8-4, 3450, was chosen for rebulding and experimentation. The Salt River Works in Cape Town turned out the rebuilt 4-8-4 in February 1981 as the new class 26. She is officially named *L. D. Porta.* Her massive boiler, cab and tender are painted a bright red, resulting in the nickname, the "Red Devil."

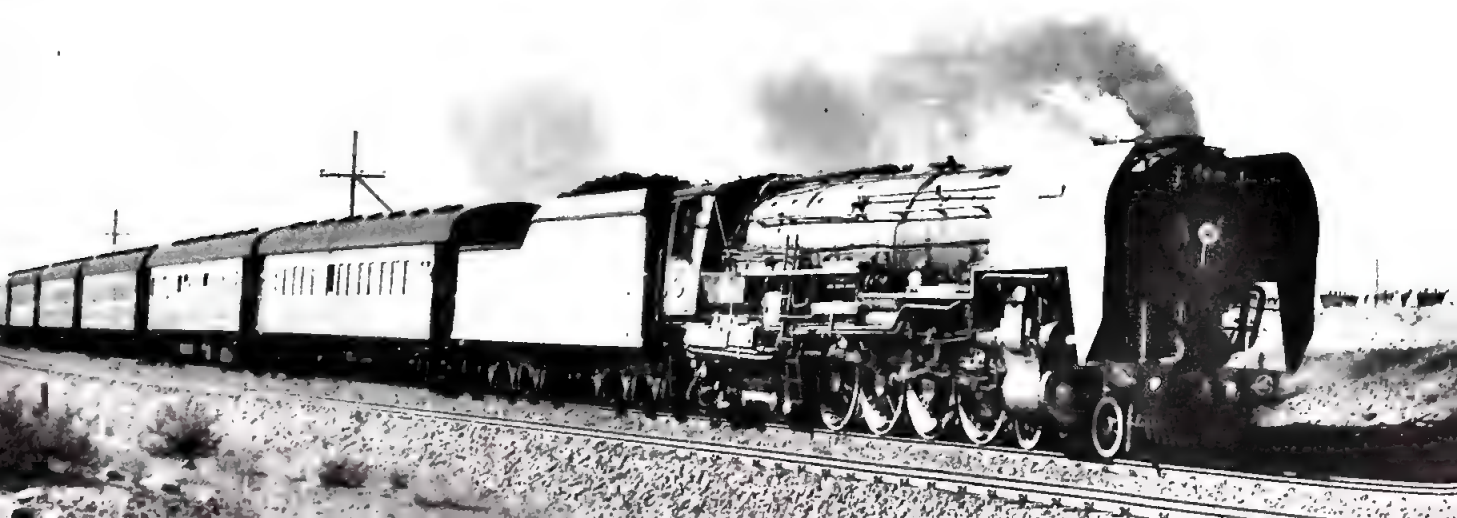
The 3450's essential modifications involve a gas-producer firebox system and the double Lempor exhaust with its two chimneys, plus completely redesigned long-lap piston valves and extensively modified steam chests—while retaining the conventional Walschaertz valve gear. Improved superheaters and internally aerodynamic spark arresting as well as a new feedwater heater were included. Most noticeable from the outside were the extended smokebox and double chimneys. The 3450 was initially equipped with smoke deflectors reminiscent of those used on the German Federal Railways, but she was subsequently re-equipped with more conventional "elephant ears."

In March 1981 the 3450 was assigned to Capital Park Locomotive Depot in Pretoria, home of the chief mechanical office for the SAR, where she immediately began tests runs to Witbank. On August 31, 1981, the new class 26 worked her first regularly-scheduled passenger train from Pretoria to Witbank and return, with a senior representative of the chief mechanical office in the cab "to see if the new steam engine could keep up with the usual electric locomotive's tight schedule." The 4-8-4 actually improved on the timetabled run by 22 minutes, despite a 25-minute late departure and longer-than-usual station stops.

During the first week of November 1981, dynamometer car tests were performed with

SOUTH AFRICAN RAILWAYS 3450, known as the "Red Devil" because of its color, has a gas-producer firebox, double-chimney front end and extensively modified valve chests, producing 43% more horsepower than a conventional SAR 25NC 4-8-4. It is shown here in three action views all taken on July 7, 1984, on a southbound passenger train between Kimberley and De Aar.

TOM KELCEC



WILLIAM BOTKIN

the "Red Devil" and a standard 25NC 3428, named *Selma*, between Pretoria and Witbank. This particular locomotive was chosen as the control engine, since it had run similar mileage since overhaul as the 26 class.

To accurately determine coal usage with stoker-fired engines, a stoker revolution counter was designed and installed. Two grades of coal were tested to compare the economies and performance of regular coal and the low grade variety when used in the modified gas-producer firebox.

The tests were completed on December 10, 1981, with a demonstration run for SAR brass. The results exceeded David Wardale's expectations and have had considerable impact on rethinking the future of steam. Coal savings ranged between 40-60%, and performance definitely exceeded the "Red Devil's" unrebuilt sister's capability. Concluding the December 1981 tests, the red 4-8-4 was transferred to Beaconsfield Locomotive Depot at Kimberley for regular service testing.

On April 11, 1982, the 4-8-4 had an indicator shelter fitted to her left side at Capital Park Shed, Pretoria. The device remained there for three weeks while electronic instrumentation was fitted to her cylinders for testing.

May 22-23, 1982, found *both* Wardale locomotives, 4-8-2 2644 and 4-8-4 3450, doubleheading the 6:58 a.m. Beaconsfield to Bloemfontein passenger. Railfans drove alongside at up to 84 m.p.h. but were unable to get ahead of the train for photos until it stopped. The pair maintained a constant over-the-road speed of 54-60 m.p.h. including stops—a remarkable performance, especially considering that these are "narrow gauge" (3'6") locomotives with 60-inch drivers.

One service the "Red Devil" is just not suited for is shunting. On July 16, 1982, while on a Kimberly-De Aar freight pickup, she switched Belmont with much violent slipping each time she had to restart her train. Results of the service decree that the Super Northern is totally unfit for shunting.

On October 31, 1982, the *L. D. Porta*, as she is correctly named, worked the last steam-hauled *Trans-Karoo Express* from Kimberley to De Aar. December 20, 1983, found her on the business end of the *Orange Express* between Kimberley and De Aar. She out-performed a pair of 34 class diesels, the usual requirement for the 20-car passenger train. The 3450 was allocated to Beaconsfield Locomotive Depot, Kimberley, and assigned to A. F. Koekemoer, her regular driver. She was used principally between Kimberley and Bloemfontein and occasionally on passenger trains, such as on August 22, 1984. When engineer Koekemoer was chalked up to run a pickup freight, he used a regular 25NC instead, as the 26 class is unsuitable for switching, and the red 4-8-4 saw no work on those days.

The reason for referring to the 3450 in the past tense is that in late 1984 she was involved in a serious side-swipe accident in an engine terminal and in early 1985 is out of service pending a decision to repair her—damage to one of her cylinders may make overhaul uneconomical.

A South African Railway's Traction Sub Committee report confesses that "steam is more economical than diesel for all traffic densities," particularly on the Kimberley-De Aar run. Yet, regretably and not understandably, the formerly steam-powered *Orange Express* along that route was dieselized on February 1, 1984.

Initially, plans called to convert ten other 25NC 4-8-4s into class 26. But after David Wardale recently left South Africa, it is doubtful that these rebuilds will be accomplished. Wardale and Porta proved that steam performance and efficiency can be substantially improved to economically outperform diesels in South Africa, and Wardale observed that similar modifications to the C&O 614 could result in her developing horsepower "of a Big Boy."

A recent article in *Developing Railways* summed up the comparison between the "Red Devil" and a conventional 25NC: Coal consumption reduced 28%, water consumption reduced 30% and a measured increase in maximum equivalent drawpower of 43%. At 46 m.p.h., the "Red Devil" was recording an indicated horsepower (not defining where measured) of 4492, with a projected maximum of 5030 at 62 m.p.h.—not bad for a 112-ton narrow gauge 4-8-4, compared to 240 tons for the C&O 614!

Special thanks must go to A. E. Durrant and the *Continental Railway Journal* for much of this data and technical information.

WILLIAM BOTKIN

ACE puts steam to the test

by Jim Boyd

During all of January 1985, 4-8-4 614T was pulling coal trains on the C&O main line to gather data for building tomorrow's steam locomotive.

ARTWORK HAL KATTAU

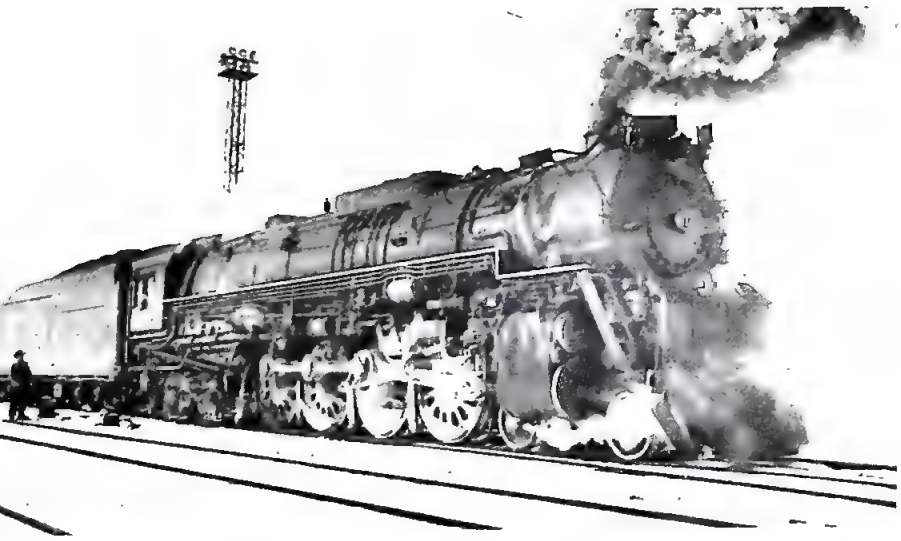
PHOTOGRAPHY JIM BOYD, EXCEPT AS NOTED

JANUARY 20, 1985, found the Northeast in the grip of a record-breaking cold wave, an "Alberta Clipper" that had the temperatures in West Virginia in the 20-below-zero range. Driving towards Huntington on that Sunday afternoon, the defroster in my Tempo couldn't keep the side windows from freezing up *inside* the car. If there was ever an excuse for not running a steam locomotive, this weather would be it.

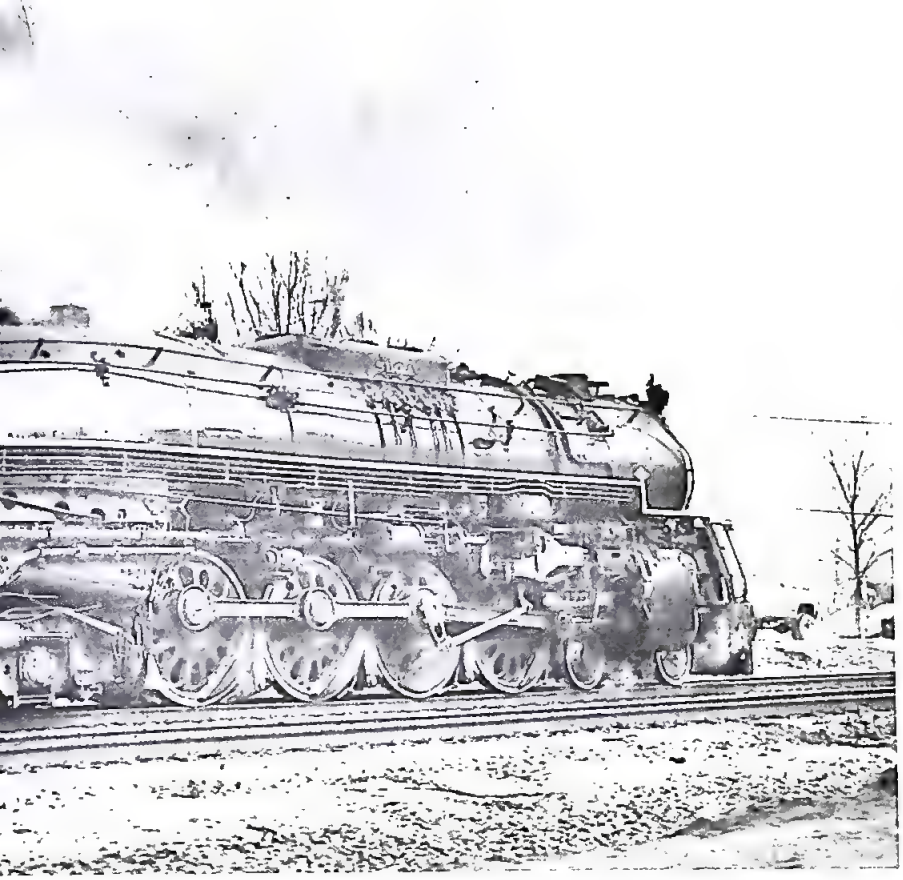
But at 8:00 on Monday morning, American Coal Enterprises' 614T, ex-C&O "Greenbrier" 4-8-4 614, was being readied to forward another loaded coal train from Huntington to Hinton over the C&O main line through New River Gorge. The paint shed in the C&O Huntington Shop complex—which was the 614T's "home" for the project—was filled with steam thicker than a pea-soup fog, and the constant sound of running water was evidence of some broken water pipes inside. About four inches of ice covered the tracks between the 614T's tender and the two canteens and crew car which were parked outside.

Steve Wickersham, head of the ACE locomotive crew, was working on the trainline connections and hacking away at the ice on the rails so that the locomotive could be backed out of the shop. Because of the severe weather and problems with ice on the cable connectors, the engineering test crew would not be attempting to take sensor readings on the locomotive's performance this day.

Meanwhile the C&O was having its own problems making its railroad function—switches were frozen and maintainers were working at every interlocking plant and yard lead. The departure of the coal train from DK Cabin adjacent to the Huntington Shop was about four hours late, but in spite of sub-zero conditions, the 614T went to work "as usual" taking 30 loads of coal (3501 tons plus the weight of the two water canteens, the crew car and office car *Independence,* for a total train weight of about 4000 tons) to Hinton. Marching out smartly through the snow-laden countryside, the grimy 4-8-4 beneath a billowing white exhaust was



IT WAS 20° BELOW ZERO on the morning of January 21 as 614T paused at DK Cabin in Huntington before getting on her train. The most memorable image of following 614T was the side-by-side pacing (top) between Cabin Creek and Handley, here on the first run with eastbound coal on January 4. That's locomotive designer David Wardale in the gangway.



a railfan's dream come true. From January 3 through 29, 1985, this was a daily-except-Sunday occurrence on the C&O main line.

Why?

"To prove that even a 1948 steam locomotive is capable of doing economically useful work using domestic coal instead of imported oil as fuel," says Ross Rowland, founder and chairman of American Coal Enterprises, Inc. (ACE). The ultimate result of the January 1985 tests on the C&O will be the construction of the ACE 3000 "second generation" steam locomotive within the next decade.

The ACE 3000

Back in the late 1970s, with the "oil crisis" a recent memory, Rowland and a few associates began a research project to see if steam locomotive development, which had for all practical purposes ended in the late 1940s, could be brought up to date using today's technology. Since railroads had spent 150 years proving that they could function on coal, why not see if a coal-burning locomotive could be developed that could compete toe-to-toe with today's diesels?

The original concept embraced by ACE was the Norfolk & Western *Jawn Henry* of 1954, a steam-turbine-electric. While it was a machine of awesome power, *Jawn* spent more time in the shop than on the road—though the ACE research revealed that the N&W was ready to buy 25 of them until the builders (Baldwin-Lima-Hamilton, Westinghouse Electric and Babcock & Wilcox) jacked up the price tag and the railroad ordered Geeps and RS11s instead.

After researching all coal-fired gas and steam turbine locomotive projects, ACE dismissed the turbine concept as too complex and unreliable and turned its attention instead to improving on the reciprocating running gear as offering the best potential for a simple and reliable drive system (if you doubt their logic, consider that the 614 sat unprotected for over 20 years and is running today on about 90% *factory installed* roller bearings!). ACE consultant Bill Withuhn came up with a dynamically-balanced eight-wheel, four-cylinder drive that would eliminate the rail pounding of conventional steam locomotives, and computer technology would provide a non-human fireman to tend the locomotives needs and make it as "automatic" as a diesel. (The story of the ACE 3000 development was in the January 1981 and September 1983 R&Rs.)

In the early 1980s, the Burlington Northern ran a computer study of the ACE concept, and as an immediate result scrapped the planned electrification of its western coalfield lines. Though an early partner with ACE in the COALS coalition (along with Babcock & Wilcox and Chessie System), the BN has dropped out of active participation in the ACE 3000 project and has entered into a $2 million deal with General Electric in alternative fuels research. When an ACE engine is built, however, the BN is still a likely customer, and its computer studies gave a great deal of credibility to the ACE ideas.

By late 1984 Rowland had restructured the ACE organization and developed his own Wall Street resources to come up with the necessary funding to get the project back on track with ACE in control of its own destiny (BN and B&W are now out of the picture, and Chessie is an active supporter but no longer a financial partner). The first project of the renewed ACE operation was the month-long test on the C&O of 4-8-4 614 to develop a base line of computer data to aid in the design of a new locomotive. An engineering giant with extensive experience in boiler and fuel technology, Foster Wheeler Corp., was contracted to acquire the test data and to assist in some of the boiler work needed on the 614. The locomotive received an extensive overhaul in the former-WM roundhouse in Hagerstown, Md., in late 1984, but there were no mechanical modifications made to it. It was equipped, however, with about two dozen computer sensors to monitor its performance on the C&O.

The purpose for the C&O January tests were two-fold. They needed to acquire heretofore unavailable technical data and to make a dramatic public gesture to make the reality of their project known to the industry and Washington. By early summer of 1985, $750 million of federal "Clean Coal Technology" money, originally appropriated for the synthetic fuels program, may be distributed to companies which are ready to produce *actual machines* that will burn coal—not just for studies that will produce nothing more than another pile of paperwork. The C&O test has already given ACE a high visibility in Washington, and with its staunch allies in Congress, it stands a good chance to come up with a useful share of the funds. Failing this, ACE has other resource options to continue its program, though it could extend the time required.

There is little doubt that the C&O test provided what was expected. On the January 2, 1985, dedication ceremony and inaugural run, the project was endorsed by CSX Chairman Hays T. Watkins, Senators John Warner of Virginia and Wendell Ford of Kentucky and Congressman Nicholas Joe Rahall of West Virginia. That night the story was carried on all major TV networks, and the news wire services carried the story to newspapers all across the U.S. and Canada. Extensive feature coverage was given in areas directly related

to the project, such as the coal mining region or northern New Jersey, the home of ACE and Foster Wheeler. The following week there was a photo and story in *Time* Magazine.

The value of the engineering data will take more time to evaluate. One of the first things determined was that the testing sensors and line equipment will have to be upgraded to survive in the brutal environment of a working locomotive. The sheer distance between the sensors and recording equipment (sensors on the locomotive and the recorders three tenders and half a baggage car away) plus the need for connectors between the tender/canteens and canteens/crew car, makes the data-gathering considerably more difficult than it would be with a stationary facility where the recorders are often within a few feet of the sensors.

The computer data being gathered primarily relates to running gear stress and loads; piston and valve temperatures and pressures; and exhaust gas content, pressures and temperatures. The dynamics of the basic boiler and firebox are well known to both ACE and Foster Wheeler engineers, so the testing emphasis is on the running gear and cylinder/exhaust performance—when Mr. Keifer was testing his New York Central 4-8-4s against the diesels, exhaust emissions were no big deal; today they are vitally important.

So why not just put the 614 on a test stand? Because there are no dynamic test facilities available, and they also want to determine just how much fuel the 614 will burn over the month of testing versus the ton-miles of actual work it performed, so that it can be compared to the cost of diesel fuel doing the same work. Then they will have a "real world" figure with which to compare steam and diesel performance in 1985 and have a reference point to start development of a truly competitive coal-burning machine. They want real numbers of an engine in typical service, and no attempt is being made to operate the locomotive at maximum efficiency in laboratory-like conditions.

AT THE PRESS CONFERENCE in Huntington before the January 2 run, CSX Chairman Hays T. Watkins (right) listens from the audience as Congressman Rahall (left) talks about the ACE project accompanied by (l to r) Senator John Warner, ACE Chairman Ross Rowland and Senator Wendell Ford. They then boarded the 614T's deluxe passenger consist to ride to Charleston (below), where a huge crowd was on hand to welcome the train. Chairman Watkins and Senator Warner rode the locomotive cab into Charleston.

The test runs

The first two days of the 614T's operation were for the press and public. On Wednesday, January 2, she handled nine passenger cars, 15 loads of coal and a caboose from Huntington to Hinton. The guests on board (representatives of industry, government, finance and the press) were wined and dined on a luxury train made up of domes, diners and lounge cars. Chairman Watkins and Senator Warner were in the cab from Huntington to Charleston. Many of the VIPs detrained at Charleston, and those who rode on to Hinton were provided with midnight bus transportation back to Huntington. The next day, only a few railfans rode the deadheading passenger consist back to Huntington.

Friday, January 4, was the first official test day. With mild weather and an 8:00 a.m. call on the pit, the 614T departed the yard at DK Cabin about 9:30 with 39 loads of coal, 4837 tons, plus the crew car and canteens, for about 5100 tons on the drawbar (a typical load for a pair of GP38s). The coal was bound for Massey Pier 9 at Newport News, Virginia, an export shipment given C&O consignment code "Tide 710"—the same number as the new EMD prime mover against which any ACE engine will have to compete. Fate was having even more fun that day: The coal had originated at the Consolidated Coal Rowland Mine, Rowland, W.Va!

That 5100-ton train was a good match for the 614, as she got down onto the booster to keep from stalling on the eight miles of .38% grade through Cotton Hill but elsewhere had little trouble making track speed, which was anywhere from 20 to 50 m.p.h. depending on curves and conditions (a 2-6-6-6 was rated at 7500 tons through Cotton Hill).

We witnessed an unscheduled stop at Thurmond with the train laying on a short .46% upgrade that had one of the road foremen convinced they'd never get restarted. As a pair of SD50s on a westbound coal train watched from in front of the depot, Rowland took about a dozen cars of slack, cut in the booster and lifted those coal cars right out with an awesome display of exhaust but not so much as a quarter-slip of the drivers. The caboose rolled by at about 15 m.p.h. with the New River Gorge still reverberating to the accelerating exhaust.

The weather on the first three days was overcast with daytime temperatures in the low 40s. It got colder Friday night, and by morning most of the

AFTER A STOP to pick up drinking water, Ross Rowland has the booster cut in and is starting the 5100-ton coal train on the .46% grade at Thurmond on January 4.

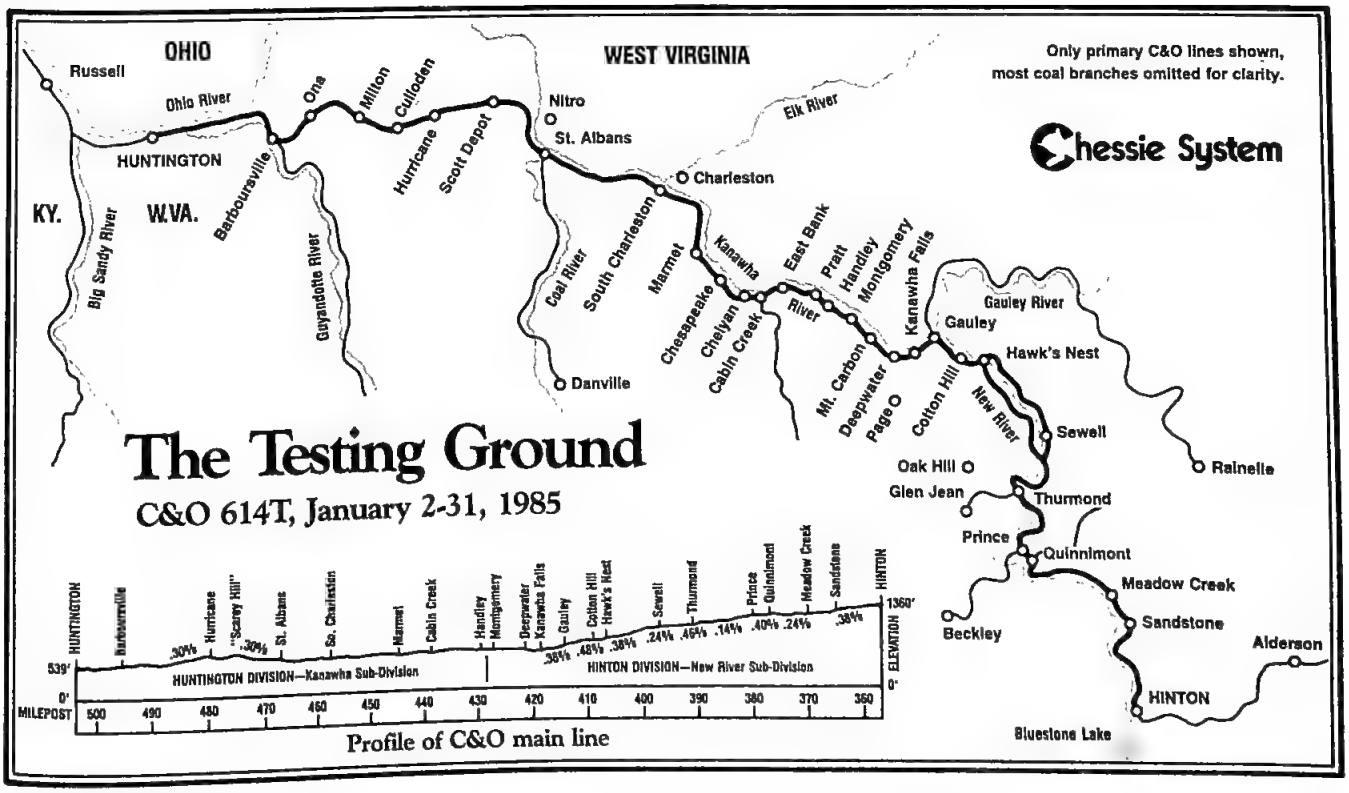
area was covered in snow. The 614T had been turned the night before—permitting a night photo session with Hinton's classic concrete coaling tower as a backdrop—and the crew was called for 8:00 a.m. Saturday to take 70 empty hoppers back to Huntington, a 2100-ton train. The 147 miles between Huntington and Hinton is essentially a water-level line with the prevailing grades eastbound; the only significant westbound grade is Scarey Hill from St. Albans to Hurricane. They made quick work of the empty coal train, running the speed limit all the way.

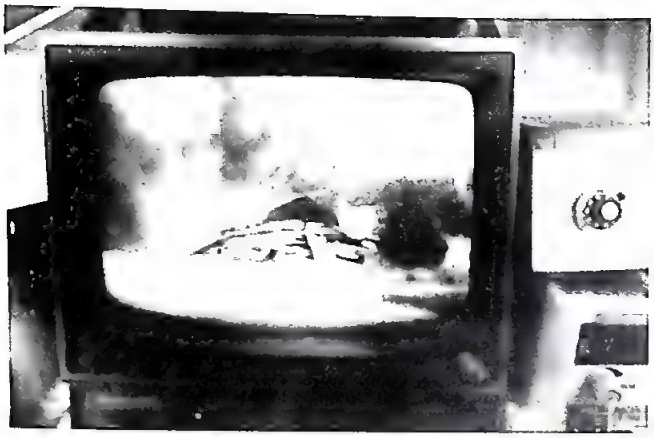
That set the pattern for the rest of the month. The train had no "regular" stops in either direction, but it would usually make one or two stops on any given day to swap people from the crew car to the cab or to check the engine or monitoring equipment. The two canteens provided enough water (about 70,000 gallons) for a full-load run between terminals, but the margin for unexpected delays was small. With some trackwork under way resulting in effectively a single-track railroad between Hawk's Nest and Thurmond, they began making water stops at Pratt or Montgomery as a safety precaution. The 50-ton coal capacity of 614T's enlarged tender was enough for the full run with adequate reserve.

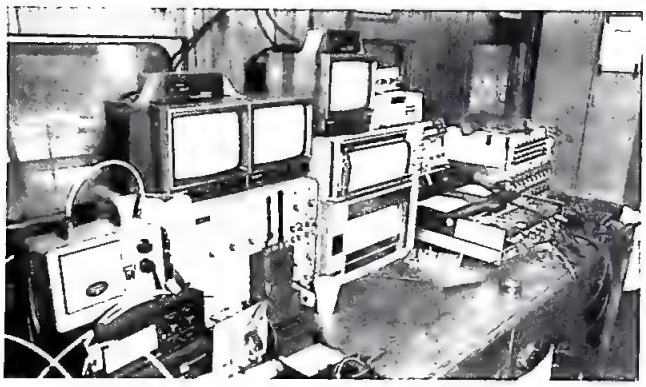
On Monday, January 7, they took 40 loads east and began having a problem with the booster disengaging. They returned west with 102 empties on Tuesday and went back east with another 40 loads on Wednesday. Climbing through Cotton Hill on Wednesday, January 9, the booster was again giving problems disengaging, and when they throttled down and finally got it to kick out, the train had slowed so much that they needed to use the booster again. It was kicked back in at low speed and suddenly began to spew gears all over the landscape.

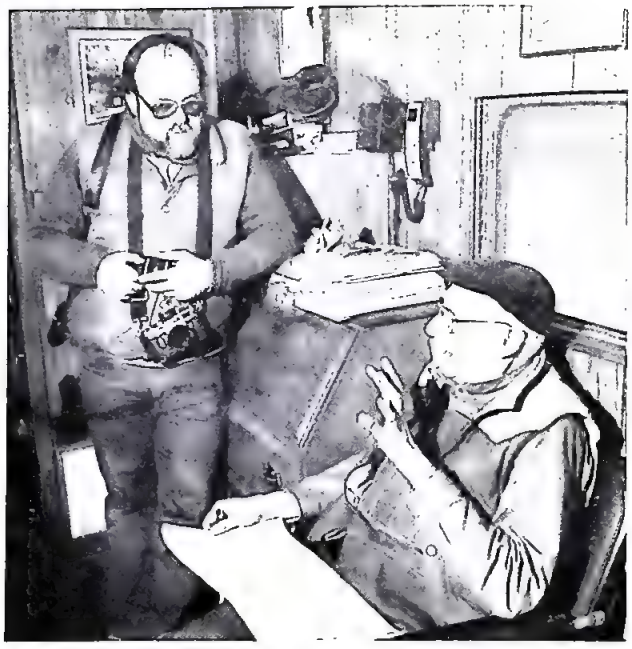
They were able to clean up the pieces and continue the run, but the booster was out of service for the rest of the test. From then on, eastbound tonnage was reduced to 30 loads, 3500 tons, though the westbound trains were kept between 90 and 102 empties. The westbound trains were a bit unpredictable, for the empties were often set out en route, most commonly at St. Albans for the Coal River line. On a number of occasions the crew was called at Hinton at 4:30 a.m., so that traffic could be cleared by noon to permit some main line trackwork to be done—more than one visiting railfan was faked out by that move.

With the full working locomotive and test crew aboard, plus members of the press who showed up, they quickly discovered that the crew car was simply not big enough to hold everybody. As a result, the ACE business car *Independence* was usually on the head end of









INSIDE THE CREW CAR, railfan Max Robin talks with locomotive designer Dante Porta (above) on January 21; the only instrument in the car's array (left) being used this day was the television monitor (top left) looking across the canteens to the engine. Foster Wheeler Engineer Hank Hertenstein (right) was working with the cable connections a couple days later. The left cylinder (top right) shows the wiring harness to the many sensors.

the train just behind the crew car—in the cold weather, the diesel generators on the *Independence* and crew car were having much more trouble than the steam locomotive.

A sub-zero ride

I was able to visit the tests on two occasions, the first four days and again on January 21-24—as noted in the opening sentence, that second visit was during a record-breaking cold snap. Because the late departure on January 21 would cut short the day's photography, Max Robin and I accepted Rowland's invitation to ride the train and let Bob Noone drive my car, following the train to Hinton.

Max is a Professional Engineer working for Bell Labs who had experience doing diesel locomotive testing on the New York Central in his college days. We spent the first half of the trip riding the crew car, hoping to observe how the data recording was handled. Since there were problems with ice-bound connectors and the working test engineer, Hank Hertenstein of Foster Wheeler, was back in New Jersey for two days, there was no electronic data being recorded on this run.

The performance was being monitored, however, by the senior ACE engineer on the project, Livio Dante Porta. A delightful gentleman with a sparkling sense of humor, "Dante" is a native of Argentina, where he served as manager of the Rio Turbio Railway and a number of energy-related scientific organizations. He was a student and colleague of the French locomotive designer Andre Chapelon, and today he is recognized as one of the foremost experts on steam locomotive technology.

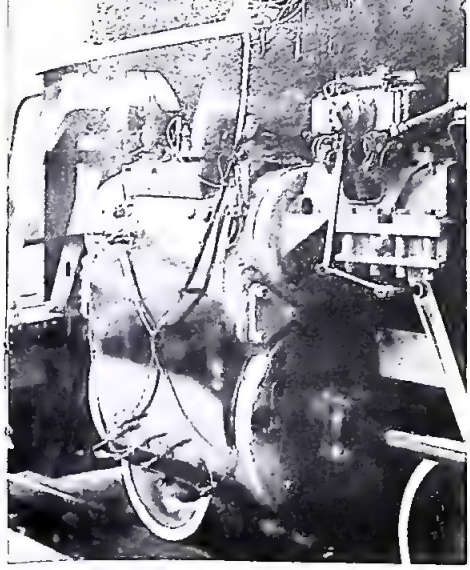
Dante's task this day was an easy one; with track charts on his lap, he was simply logging the progress of the train and observing the locomotive performance on a television monitor that was being fed from a camera mounted atop the crew car that looked forward across the canteens to the locomotive. Landmarks could be easily picked out and the characteristics of the exhaust readily noted. "A little more smoke . . . a little more smoke . . . ah, that's better, he would murmur. "It looks like I am doing nothing," he winked, "but I am using mental telepathy to manipulate the fireman."

The recording equipment in the crew car was surprisingly compact, consisting of a couple of TV monitors, oscilloscopes, graph chart recorders, switch panels and a big tape recorder. As Max pointed out, in the 1940s it would have taken an entire dynamometer car to get considerably less data than the ACE team was recording. Modern electronic strain gauges and thermocouples can give readouts on moving hardware that would have been extremely difficult in an earlier era—the ACE tests have gathered some specific data, for instance, on rod vibrations that confirm what had only been a theory to Lima about the performance of the tandem rods.

During recording operations, the speed, throttle position and cutoff would be radioed back from the cab and properly logged. Riding the crew car, it was fascinating to watch the TV monitor and see Bobby Noone driving my car alongside the engine on the highway east of Charleston.

Traffic on the railroad had us bottled up at Pratt, just west of Handley, so a call went out to the local fire department to take on water there. Bundled against the cold, I made my way up to the locomotive cab. Steve Wickersham had run the engine out of Huntington and was due for a rest—especially after spending the water stop repairing a hose connection between the canteens that had burst. Ross would run the engine to Hinton.

The temperature was still about 15° below zero, and the cab of 614T was a bizarre world. The firedoor generated a small radius of intense heat, but the cab curtains kept out only the wind and little of the cold—to say nothing of the cab windows which were frequently open for visibility. Steam from the injectors and devious external sources was constantly rolling into the cab. The rela-



ROSS ROWLAND is at the throttle in sub-zero weather in the New River Gorge on January 21 with Road Foreman Carl Lilly. The ACE 3000 will have a cab more like a diesel.

tively warm, moist air would hit the frigid aluminum of the unlined cab roof and immediately condense into water, which dripped constantly from the ceiling—it was like being in a sub-zero tropical rain forest.

It was colder on the open tender deck, but at least it was dry. The sound, however, was magnificent as the 614T worked up to track speed with the billowing white exhaust lifting into the cold, crisp air. The train was a good balance for the 614T's power, as Ross was able to keep an almost constant wide-open throttle and regulate the speed with the reverse gear.

With its headlight, bulbs beneath the running board and lights in the coal bunker, the 614T was a glimmer of brightness in the blackness of the night. The exhaust was more thunderous than sharp, and the entire locomotive trembled with an underlying rumble of sound—that same "presence" you get

JAY WILLIAMS

WITH 120 EMPTIES in tow, the 614 romps through Marmet westbound to Huntington on January 8 in a rare bit of sunshine.

near Niagara Falls. Inside the cab the exhaust was muted somewhat by the loud hissing of the stoker jets, and you had to lean out the gangway or a window to get the full impact of the stack.

There was a surprising amount of reflected light in the overcast sky, and the towering ridges were distinctly visible from the gorge. With the black silhouette of the boiler bathed in whisps of steam, the headlight lit the single track ahead, gently weaving its way through the rocky confines of the river bank. Traces of abandoned coke ovens and remnants of civilization would appear briefly in the locomotive's light and then sweep past into the dark. A dazzlingly bright green light would pop around a curve, and the cab would echo with everyone calling out "clear!" All the while the hammering exhaust would dominate all other sensations.

For the moment, the thoughts of scientific endeavors, federal funding and the theories of coal versus oil economics were of little consequence as the 614 lifted a loaded coal train through West Virginia in 1985. But inside you knew that unlike fantrips, this ride wasn't for sport but was for real—one helluva fine way to challenge the energy crisis!

The railfan chase

Even the most severe critics of the ACE project would have to admit that they put on a fine show for the railfans. The eastbound runs were the most dramatic, with a morning departure from Huntington and numerous opportunities for photos between there and Charleston, with an Interstate highway for quick recovery at legal speeds—you could typically catch him two or three times west of Charleston.

Good highways could get you through the St. Albans/Charleston congestion, and the West Virginia Turnpike offered some good side-by-side pacing with little traffic hazard. A blacktop highway east of Cabin Creek provided miles of choice between side-by-side pacing and curving riverside scenic shots. The motorcades were well behaved, and the rail and highway speed limits kept everything surprisingly safe and sane. The radar cop at Handley quickly realized that the steam engine would mean a motorcade, and he more than earned his pay by keeping the few crazy drivers in check. A stop by the train at Pratt, Handley or Montgomery would usually give the motorcade a chance to regroup and select further

THE FIRST LIGHT OF DAWN outlines the Hinton coaling tower as the 614T awaits her 8:00 a.m. call on January 5. Two days earlier she had presented a classic image (**below**) backing out to deadhead the passenger consist from Hinton to Huntington. The mile-long westbound empty trains were an impressive sight, as evidenced by the 614T on January 24 (**left**) making the legal 50 m.p.h. through St. Albans.

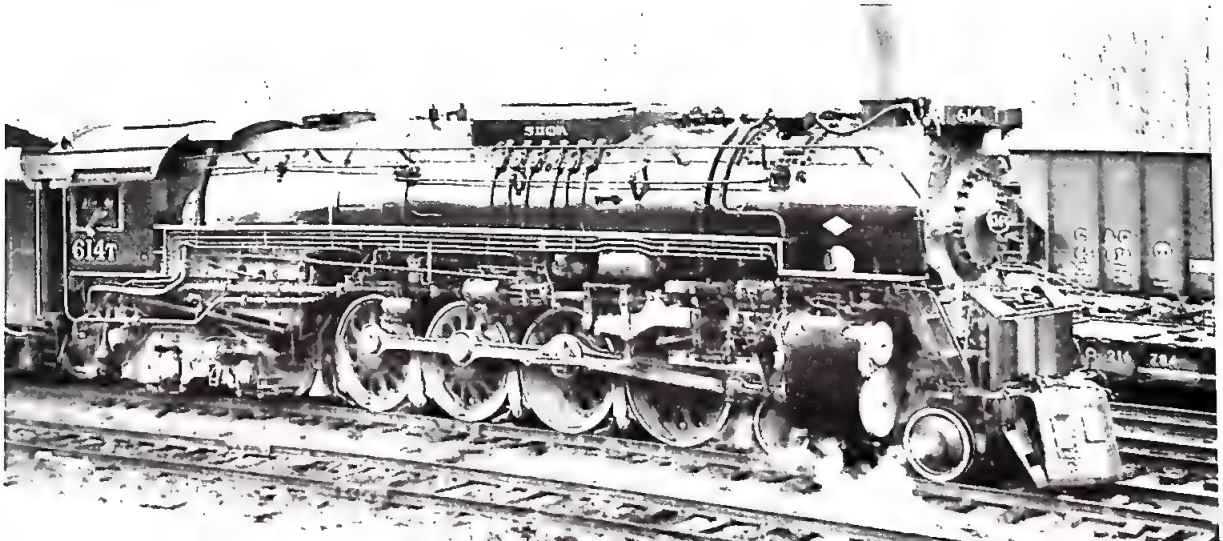


photo or pacing options—the Kentucky Fried Chicken at Montgomery became *the* railfan gathering place during water stops.

By Deepwater, however, you had to make a choice—if you wanted to get to Thurmond, you had to break off there and head over the mountain, but you could opt for further shots between Deepwater and Cotton Hill or Hawk's Nest if you were willing to give up Thurmond. No roads follow the railroad east of Hawk's Nest, and you had to pick and choose your spots carefully. It made for a rewarding day of photography in either direction.

Where will it lead?

When the testing is completed and the 614T is back in the Hagerstown roundhouse, what will ACE be doing? They will be working on two fronts.

First, they have set up an office in a private railroad car in Washington Union Station, within walking distance of "The Hill." And Capitol Hill will be where the first round is fought, as Ace presents its case to the federal establishment for a share of the $750 million Clean Coal Technology money. When and if the funding comes through—which is expected by early summer 1985—they will begin actual design of the first ACE 3000 locomotive, the second stage of the project.

But it won't be the ACE 3000 that has been pictured on the cover of the January 1981 or the inside rear cover of the September 1983 R&R. Says Rowland, "We are going to approach our ultimate ACE 3000 locomotive in two or three steps, and our first prototype, the Mark I, will be a more conventional locomotive than our final design."

The specific details of the "Mark I" are being kept secret to minimize the advantage to others who are competing for a share of that same $750 million. There are some clues, however, as to what may transpire. One of them is in the person of David Wardale, a tall Englishman who was responsible for the construction in 1980 of the newest class of steam locomotive for the South African Railways: the Class 26 4-8-4 3450, named for Dante Porta and known unofficially as the "Red Devil" for its red and gold livery (see page 32). This conversion of a Class 25NC 4-8-4 resulted in an overall increase in efficiency of about 40% and has already become a serious economic factor in delaying further electrification of SAR lines. The locomotive incorporates a gas-producer firebox, dual-chimney exhaust system and extensively modified valves—while retaining its "conventional" appearance and Walschaertz valve gear.

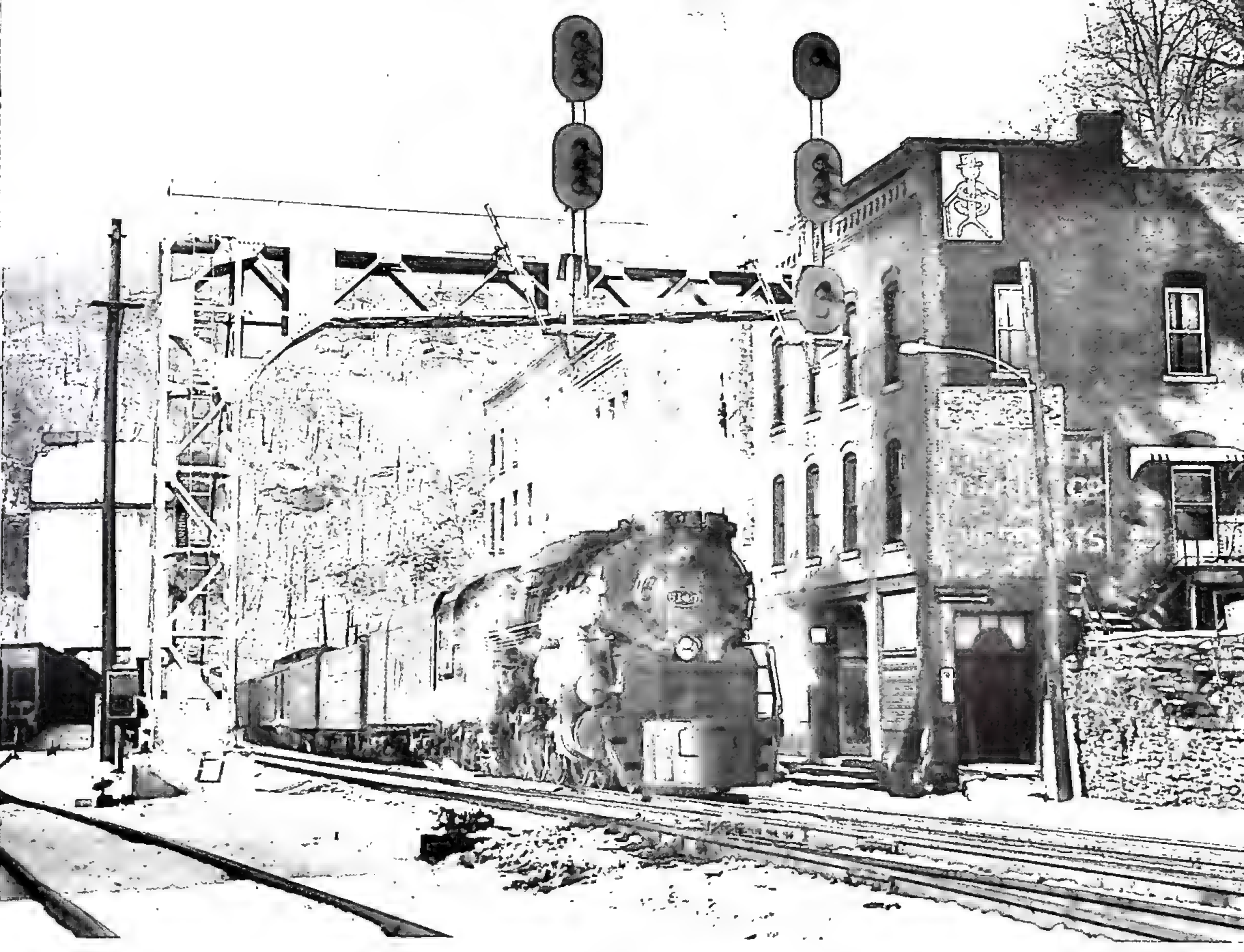
David Wardale was on hand during the January tests and was working closely with Dante Porta in establishing the specific data-gathering parameters. When funding is secured for ACE, Wardale will go to work on the project full time. While neither he nor Porta would discuss the details of the Mark I, there was some hint of what might be in the works.

Although the 614 *may* be equipped with a gas-producer firebox as a part of the development project, it will not be used as the basis for the Mark I, which will be a totally new locomotive built from scratch. In comparing the potential improvement for the 614 in a "Red Devil" conversion, Wardale said that he could make the 614 "more powerful than the Big Boy."

He was careful to point out, however, that the "more powerful" was in terms of horsepower, not tractive effort. To be competitive with the diesel, the Mark I will have to have more of its weight on the drivers than would a 4-8-4.

How "conventional" the Mark I will appear is hard to predict, as one thing all acknowledge is that the cab on the new engine will have to be at least as comfortable as a diesel cab. And Rowland states flatly, "It will have a clean toilet that works."

JAY WILLIAMS



WITH EXHAUST RATTLING the storefronts, the 614T enters the passing track at Thurmond on a sunny January 23. The short .48% at Cotton Hill (left, January 7) in the middle of eight miles of .38% was the toughest eastbound grade. Designer David Wardale (top left) was inspecting the stoker instrumentation at Hinton on January 23.

One aspect of the Mark I that was revealed in the press release is that for the sake of simplicity the initial prototype will not use a condensing system—that means that it will at least *sound* like a steam engine! It would probably be safe to assume that the Mark I will be a fairly conventional steam locomotive with all of the Red Devil improvements plus a clean cab and a computer for a fireman.

It is doubtful that an ACE 3000 or a Mark I with reciprocating running gear will ever win a lugging contest with a diesel. But as Dante Porta pointed out, in the 1940s the railroads were speeding up their trains with more powerful steam locomotives, when along came the diesel with its tremendous low-speed power. The diesel took over and the "drag era" returned, because that is where the diesel was at its greatest economic advantage. If you doubt that it takes a lot of horsepower to move trains fast, just count the units on the next piggybacker you see. And like the tiny AEM7 versus the diesel-like E60, there just may be a place in tomorrow's railroading for a compact package of coal-burning horsepower.

Although the initial testing and talk about the ACE 3000 is in the coalfields with tonnage trains, one might rightly suspect that any future high-horsepower steam locomotive will be more at home on the fast pig trains and merchandisers where its high speed efficiency and comparative lack of low speed tractive effort will work the best. The railroads may have to re-evaluate their thinking on motive power utilization, but the economic advantages of burning domestic coal instead of imported oil could provide a strong incentive. At current prices and market conditions, the energy cost advantage of coal over oil is six-to-one, and there's little doubt that oil will become more costly more rapidly than coal.

In South Africa, steam locomotives are still more economical to operate than diesels, and if oil prices continue to rise, we may find North America in the same situation. There is little doubt that the new generation of steam locomotives will probably be more labor intensive than diesels, but if the fuel cost advantage can cancel out the increased labor costs, steam can win the game. As Rowland pointed out, "How would you like to be Hays Watkins and have to come into the heart of West Virginia and announce that you will have to hire 1500 more employees to keep your new coal-burners running? At a time when they're rioting in churches in Pittsburgh because steel jobs have gone overseas, how would you like to tell a state full of coal miners that you'll need a long term contract for more coal? And how would you like to know that after all of this you're going to save money on the bottom line? I think you know the answer."

The Creatures from Cleburne

by David Lustig

The Santa Fe's exercise in making a very useful sow's ear out of a worn-out silk purse.

WILLIAM F. BANNOCK

There have been good looking diesels and bad, rakish designs and nightmares, styling that has caught the imagination of both the public and industry alike and some that should never left the drawing board.

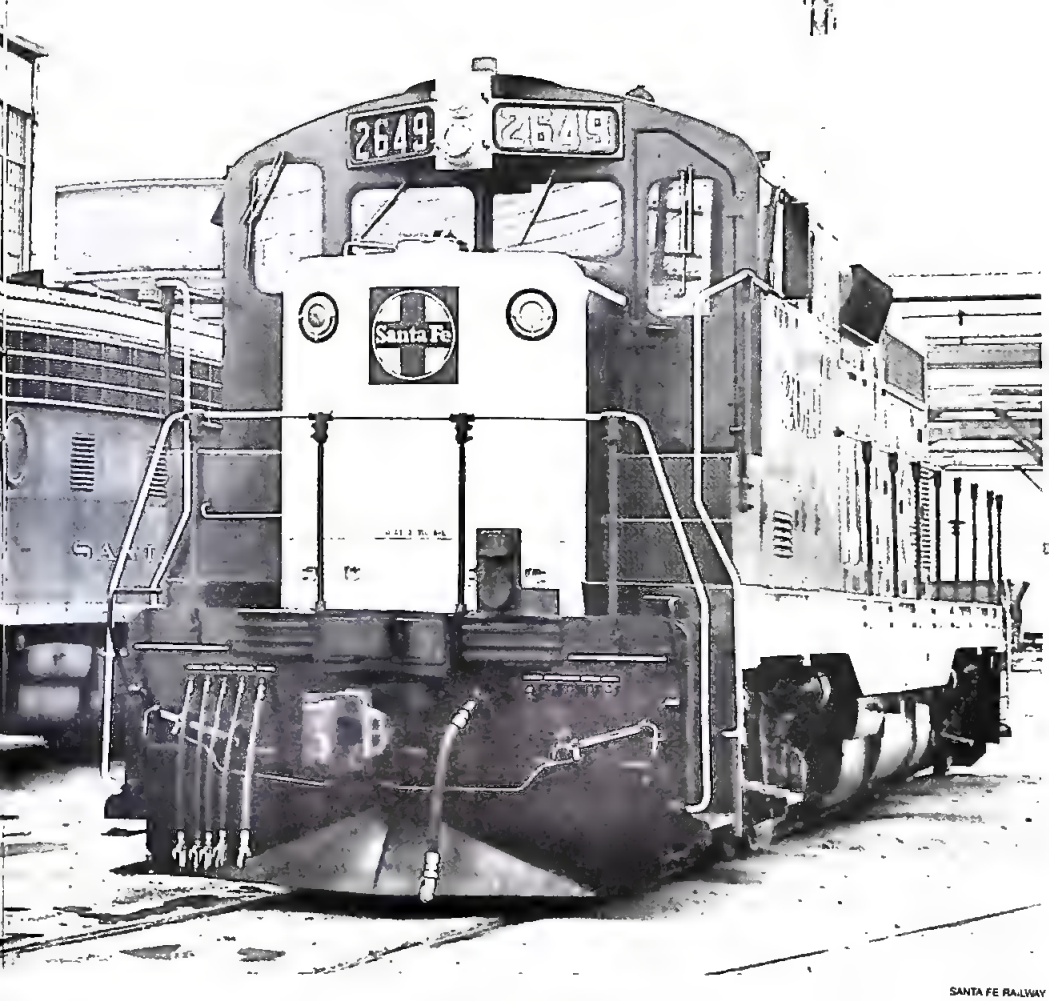
Then there is the Santa Fe CF7.

Resembling an early model Geep that has been sadistically kitbashed by model railroaders with an extremely offbeat sense of humor, the final result has employees and fans loving or hating them with precious few votes in between.

From the rear of the cab back, a CF7 looks like a GP7 on which LaGrange forgot to attach all the sheet metal to the frame. The short, low-nose hood can only be described as pug, and the cab . . . well, the cab never seems quite right whether it be the original rounded format or the angular "headache" version.

Perhaps it is because the cab is too big. Maybe whatever shape the roof is, it is the wrong shape. It could be that it is set too far forward on the frame. Whatever the reason, what Santa Fe's homebuilt CF7 units lack in pleasing esthetics, they more than make up for in versatility and proven performance.

Railroad maintenance policies vary widely. Accountants may show one corporate management the profitability of



SANTA FE RAILWAY

THE FIRST CF7, 2649, posed at Cleburne Shop in March 1970 alongside F7 223, sister engine to the 262C from which the 2649 was transformed. The 2484 (far left) near Hobart Yard in Los Angeles, illustrates a newer CF7 with an air-conditioner in the squared-off cab and the elongated engineer's front window.

operating units right into the ground, maintaining them just enough to get the chores done and, when repair costs exceed practical use, redlining the units to the rip track or used locomotive market or holding them as trade-in candidates.

Another may find that the strategy of respectable maintenance, proper shopping and a little care, while in the short haul a little more expensive, eventually might be the better course. The Santa Fe has usually followed the latter course with its switcher fleet.

That thinking produced nicely-running high hood Alco HH1000s burbling around Los Angeles into the 1970s, Alco S1s in the San Francisco Bay area long after they had been fully amortized, and goodly-sized fleets of Alco S2/S4 switchers roaming the western end of the system while platoons of various model Baldwins worked the east.

But no matter how consistent the maintenance, situations change. When Santa Fe faced the decision of new units, Alco and Baldwin were long out of the locomotive business, and officials in major cities began making noises about air pollution.

The role of the railroads changed, too. Once upon a time practically every industry depended on the local switcher delivering cars to the loading dock, whether it be a string of 40 grain hoppers or a lone box car. Trucks and the economics of delivering single loads soon reorganized switching patterns and requirements. Smaller units became underpowered pains in the main generator, and while a short line with one or two Alcos or Baldwins may be able to secure the necessary parts needed to keep "Old Number 1" operable, mass quantities of parts from out-of-the-business manufacturers soon become hard to locate for a sizeable fleet.

In short, the time was at hand to make a far-reaching decision on new switcher and secondary road power.

The Baldwins and Alcos would definitely have to be retired. That would leave Santa Fe with a handful of tired EMD NW2s, some SW9s and SW1200s, and a couple of EMD cow-and-calf sets working the Argentine, Kansas, hump.

Plagued with hordes of low-density branch lines as well as numerous secondary mains, Santa Fe was just unable—or unwilling— to reach into the company coffers for new switchers that might be well used on one assignment and extremely under-utilized on another. Even in the late 1960s, 1500 horsepower switchers were well over $175,000 apiece. At that price, corporate officers might think twice before giving any locomotive builder the green light for 200+ units.

In many cases, demoted first-generation roadswitchers were valiantly plugging the holes in the ever-worsening situation. Santa Fe possessed a couple hundred GP7s and a handful of GP9s, but they were already busy holding down locals and yard assignments throughout the system. The remains of a one-time fleet of 60+ Alco RSD4 and RSD5 roadswitchers were picking up a few assignments, and the last able-bodied Fairbanks-Morse H16-44s roamed around the middle of the system on their last legs. The RSDs and the FMs were about to become junk, and it was becoming common to use single Fs on locals and switching jobs, a procedure that did not endear the Santa Fe in the eyes of the crews who were forced to use them.

But while Santa Fe did not have large numbers of suitable first-generation roadswitcher replacements for its switcher fleet, the road still rostered hundreds of F3, F7 and F9 units working their last miles.

They could be traded-in on new switchers, but that would only account

TWO PHOTOS SANTA FE RAILWAY

for about five to nine percent off the purchase price of new units. Could Santa Fe mechanical engineers design, inexpensively, and Santa Fe shops create, also inexpensively, new switchers from the old Fs and save millions of dollars in the process—not to mention giving corporate accountants millions in new locomotive tax credits? Management wanted to find out if this Phoenix-like trick could be done, and the road's Topeka, Kansas, engineering department got the nod to investigate.

After lots of poking around F-units, playing with adding machines and hordes of sketches, Topeka advised Chicago it could be done, if almost every item that was required to make the entire locomotive run was rebuilt and reused and a new hood-type covering could be economically constructed in-house. Armed with those prerequisites, Engineer Leo Townsley left his Topeka office in the latter part of 1969 and went south to Cleburne, Texas, for the winter.

Located approximately 50 miles southwest of Dallas, Cleburne is the home of a massive—and at the time under-utilized—locomotive repair facility. Once the principal steam shop for the southeast part of the system, Cleburne had the room and talent to produce the new creation.

Santa Fe F7A 262C had the dubious honor of being pulled from the deadline and moved into the shops to become the guinea pig for the prototype, dubbed CF7, for Converted *F7*. A 1951 gradu-

ate of EMD, there were several million miles on 262C, and it would be a challenge to see exactly what was left to reuse.

Ahead of Townsley and the crew at Cleburne was a new road with few maps to guide them. The job was akin to taking a 1951 Cadillac and rebuilding it from the ground up to perform like a new GMC dump truck. Many common parts are already there—such as the engine, drive train, speedometer, steering wheel, foot pedals, etc.—but so many problems are instantly created because the original design did not call for hauling anything other than people.

The load factor is wrong, the entire sleek body has to be removed and replaced by a utilitarian one, the parts are worn, and no one has seen wiring like that in years. So you proceed carefully, like walking through a minefield, because instead of a resurrection, you could get a large pile of junk. That is the type of problem that faced Townsley and his crew at Cleburne when they proceeded to tackle 262C.

The first problem in the F7 to CF7 conversion was the carbody itself. Unlike hood units where the frame carries the load, EMD had designed its F and E units so that the carbody was an integral part of the locomotive's structural strength. Since it was carrying much of the load of the fully assembled 262C, the carbody could not be hacked away until that weight had been removed. The logical first step, therefore, was the removal of the prime mover through the overhead access hatch (where the radiator fans are located). Once that was completed and the 567 diesel had been sent to another part of the shop for rebuilding, crews could begin stripping off the carbody.

Everything of value that could be saved, rebuilt and then reinstalled was pulled. The main generator, trucks, control stand, air horns, pumps, valves, tanks, light bulbs . . . you name it, everything was cataloged. The basic carbody and a myriad of small parts were trashed.

By the time disassembly was completed, all that remained was the frame. That was the easy part. Now it all had to be put back together in a logical order.

Specially constructed I-beams were fabricated at the Topeka shops and welded to the sides of the existing frame, giving the unit the appearance of being built on a modified flat car. More importantly than looks, however, it gave the basic frame the required strength when its bridge-truss sides were removed.

Parts that had been removed with millions of miles and years of work behind them were returned after being inspected and brought up to current tolerances. The main generator and traction motors, having been returned from the road's San Bernardino (California) shops after being rewired and inspected, were installed, all sitting around a rebuilt 567 prime mover that looked and operated as new as the day the boys at LaGrange bolted it to a frame the first time.

The cab of the 262C retained its original contour because it was the one part of the carbody that was left somewhat intact, using many of the same struts and supports of the original. The long hood for the prototype was originally destined as a replacement for a damaged GP7; the hood was detoured to the CF7 project. The short hood was a product of Cleburne ingenuity.

As the 262C went away and its replacement, the 2649 (records at indicate the unit was originally to become the 2952, but at the last moment it was changed) began taking shape, Santa Fe was not doing much talking. While the project was by no means a secret, if the

JUDGING BY THE UNIT NUMBERS, the view of the Cleburne CF7 assembly line was made in November 1972. The colors aren't reversed on the 2589 and 2590; that's masking tape over the blue lettering undercoat. The 2566 at L.A. is typical of the later CF7s.

TWO PHOTOS JIM BOYD

The Cleburne Baldwin

There was a parallel program begun just after the initiation of the CF7 program that rates mention. Cleburne had at its disposal a large number of retired Baldwin VO1000 and DS4-4-1000 switchers. Could an EMD 567 prime mover and electricals be installed in one of these heavy-duty beasts? Like the CF7, Cleburne was going to find out.

Baldwin DS4-4-1000 2220 was selected. Like the Fs, 2220 was stripped to the frame and reworked. A newly rebuilt 567 was installed, and fitted above it was a fabricated GP7-like long hood.

It worked like a gem. As a matter of fact, 14 years later it still is in operation with the Santa Fe, now being used as a switcher at Cleburne. The unit gives good traction, pulls nicely and is easy to maintain despite the fact it looks like five quarts of water in a four quart container.

Why was it never duplicated?

Many rumors have surfaced, including the idea that the number of available 567 prime movers was so limited that they were to be held for the CF7 project. But according to Santa Fe shop forces who remember, the real reason was the Baldwin frame.

"The chopping, hacking and cutting we had to do on that beast," remembers one foreman, "was just not worth it. Timewise, it took us much longer to put the 567 and main generator in the Baldwin than using a platform like the F frame, which was already designed for the 567 in the first place."

SANTA FE 2450 was created from Baldwin DS4-4-1000 2220 in December 1970. Shown here at Cleburne in October 1971, she was renumbered 1160 in November 1974. The only such rebuild, the 1160 is still in operation.

transformation proved to be less than a howling success, the Santa Fe certainly did not want to be in the position of explaining why not to the entire railroad community.

But as in all industries, word began to leak out. By the time 2649 received its final coat of paint on February 27, 1970, every railroad and railfan alike knew the Santa Fe was up to something unique deep inside the Cleburne shops.

That the finished unit would work was never the question. That it would perform up to expectations, however, did keep a couple of project leaders up nights.

Avoiding publicity, 2649 was sent on its initial test run March 3, 1970, on train DCTX between Cleburne and Dallas. For the next ten days, the unit shuttled back and forth between the shops and Dallas, its every hiccup and grumble closely watched. The electrical cabinet (all the wiring was new and upgraded wherever possible) was patted lovingly. It was soon apparent that Dr. Frankenstein could have achieved no greater success.

In fact, the unit worked very nicely. In its role as a switcher, engineers could easily see their brakemen on the ground. Assigned to branch lines and road work, it would be the perfect 1,500-horsepower package that could be used either by itself or plugged into any locomotive consist. Once the bugs were worked out, the 2649 would be the proud papa of a fleet of such hybrids. Santa Fe President John S. Reed and Vice-President Larry Cena said as much at the unit's official unveiling in Dallas on March 13, 1970.

Now that the handshaking and backslapping was over, a schedule could be laid to build the fleet. But first, plans had to be drawn. The first CF7 was truly a kitbasher's delight. It was torn down, hacked at, put back together and made to run on a shoestring. Only when success was assured and cookie-cutter clones could easily follow was the decision made to draw up official plans.

Draftsmen from Topeka journeyed to Cleburne, pencils in hand, to measure, chart and map every section of 2649 to insure that accurate wiring diagrams, final dimensions and proper assembly-line practices could be instituted.

The only major change from 2649 would be the absence of dynamic brakes, an item the replacement Geep hood just happened to be equipped with and deemed unnecessary for the rest of the fleet.

Armed with Topeka's plans and authority from Chicago to build six identical units in 1970, the CF7 project was off and running. At its height, approximately 130 personnel were assigned to the CF7 program, including 45 boilermakers, two dozen machinists, 30 electricians, 15 sheet metal workers (those long hoods may look like something

SANTA FE RAILWAY

THE 2636 had a cab like the 2632 when it was new, but like many of the older CF7s was retrofitted with the angular cab. The 2636 was at Mission Tower on a Hobart to Taylor transfer run in January 1984.

WILLIAM F. BANNOCK

from the EMD parts catalog, but they were born in Cleburne), six painters, four carmen and two blacksmiths.

Twelve more CF7s were completed in 1971, and then in 1972 the first of the large orders, 50 units, moved through the shops. The production line got into high gear with streamlined work practices. A jig was created to make the low nose and cab combination in one piece and then reinstall them properly on the frame. Every electrical cabinet looked identical, and made from scratch or not, the long hoods were cleanly matched to each new unit, right down to the sheet-metal stamped louvers supplied by the Topeka shops. During the height of the rebuilding, it was common to see eight or nine CF7s in various stages of construction at one time at Cleburne, with a new one rolling out the door every five

CF7 dispositions

CF7s known to be off AT&SF roster.

2417	Rail Systems, Inc., Hollis, N.H., 12/84	2453	Amtrak, 9/84	2554	
2419	Black River & Western 41 via BM&R, 7/84	2454	Amtrak, 9/84	2556	Amtrak, 9/84
2420	GE/BM&R, 1/85	2455		2562	Amtrak, 9/84
2421	Black River & Western 42 via BM&R, 7/84	2457	Amtrak, 9/84	2567	
2424	Blue Mountain & Reading 424, 7/84	2458		2574	GE/BM&R, 1/85
2425	Rail Systems, Hollis, N.H., 12/84	2459	Amtrak, 9/84	2583	
2426	Rail Systems, Hollis, N.H., 12/84	2460	Amtrak, 9/84	2584	Amtrak, 9/84
2427	Nittany & Bald Eagle via BM&R, 7/84	2461	Amtrak, 9/84	2587	Amtrak, 9/84
2429	North Shore R.R. via BM&R, 7/84	2462	Amtrak, 9/84	2588	Amtrak, 9/84
2430	Amtrak, 9/84	2463	Amtrak, 9/84	2590	GE/BM&R, 1/85
2432	Newton Asphalt, Alexandria, Va., via BM&R, 7/84	2469	BE/BM&R, 1/85	2592	
2433	Amtrak, 9/84	2470	Falls Creek R.R. via BM&R, 7/84	2594	GE/BM&R, 1/85
2435		2471	Falls Creek R.R. via BM&R, 7/84	2595	Amtrak, 9/84
2436		2478	GE/BM&R, 1/85	2599	
2437	Amtrak, 9/84	2497		2601	
2438	Amtrak, 9/84	2500	GE/BM&R, 1/85	2603	GE/BM&R, 1/85
2439	Amtrak, 9/84	2502		2610	
2440	Amtrak, 9/84	2513		2611	
2443	Massachusetts Central via BM&R, 7/84	2519		2613	
2444	North Shore R.R. via BM&R, 7/84	2521	GE/BM&R, 1/85	2620	
2445	Amtrak, 9/84	2531	GE/BM&R, 1/85	2625	
2446	GE/BM&R, 1/85	2540		2628	GE/BM&R, 1/85
				2630	
				2632	GE/BM&R, 1/85
				2634	
				2638	Amtrak/Naporano Iron, 9/84
				2639	
				2645	Amtrak, 9/84
				2649	GE/BM&R 1/85

Dispositions shown where known; units listed without notation may have been sold, wrecked or scrapped as of January 1985.

or six working days. And what took the first crew five months to do with 2649 was now taking an average of 45 days to create.

The year 1973 saw 50 more CF7s authorized and the introduction of roof-mounted air conditioners to the project, an item that would eventually be retrofitted to most of the earlier units as they came due for heavy maintenance.

Fifty-two were built in 1974, but only seven in 1975 and none in 1976 due to a downturn in business. Finally, in 1977, one last healthy batch of 55 was approved. When the 2417—the CF7s were numbered downward from the prototype—left Cleburne, 233 units had been constructed.

Contrary to rumors, when retired F9As were brought into the rebuilding program, there was never any intention of creating "CF9s." From the start the decision had been made to make all the rebuilds as mechanically identical as possible at 1,500 horsepower.

A most ambitious undertaking, another CF7-like program on the Santa Fe is extremely remote. True, the earliest CF7s are being retired, having reached their expected lifespan as dual-purpose road locomotives and switchers, and more units will have to fill the gap, but there is also the question of the impending Santa Fe-Southern Pacific merger.

It is almost a certainty that the merger will go through, and between the two railroads there will be plenty of switcher power, especially with Southern Pacific's massive numbers of SW1500s, MP15s and GP9s to take up the slack, many of which are in storage as of this writing.

Yet their eventual demise from the Santa Fe—or Santa Fe-Southern Pacific—if you will, will not mean their disappearance from the railroad scene.

In September 1984, Santa Fe announced a deal to trade Amtrak 42 units (all their SSB1200s created from SW9s and SW1200s plus 25 CF7s, in return for 18 stored Amtrak SDP40Fs). In addition, a number of CF7s have sold through brokers to short lines, primarily in the Northeast. And 50 are currently stored serviceable throughout the Santa Fe system.

In retrospect, how successful was the CF7 program?

"Extremely," comments Santa Fe spokesman Mike Martin. "They are used on every part of the system. One day a CF7 is a switcher, the next working a local freight. Some lines in Texas use them as road power. They're easy to maintain, the crews seem to like them, and they earn their keep. What more could we ask for?"

Indeed, what more could you ask for?

THE BLACK RIVER & WESTERN in New Jersey had not yet repainted its 2421 in October 1984. Amtrak and numerous short lines have acquired retired CF7s; see page 67.

JIM BOYD

WITH DOUBLE-STACK CONTAINERS, the LAHOT makes a crew change at Pepper Avenue in West Colton.

PART TWO: Eastbound
on Amtrak from San Diego to New Jersey.

Escape from Winter

by Jim Boyd

In the March issue, I described my February 1984 journey from New Jersey to San Diego on Amtrak's *Broadway Limited, Southwest Limited* and *San Diegan.* Traveling with me from Chicago was longtime railfan friend Craig Willett. Joining us in Los Angeles was another railfan, Air Force Captain John Sistrunk. As we ended in the March issue, we had just completed our business and railfanning in San Diego and were about to depart.

The last northbound train on Sunday evening, *San Diegan* 585, had F40 223 and five Amfleets loaded with kids and worn-out weekenders. Sistrunk had his car in L.A., and upon arrival we went to the West Colton Travelodge for the night. Monday was to be our day on Cajon Pass.

On our way out to breakfast in the morning, we literally stumbled onto the balloon-track just east of the Pepper Avenue bridge at the end of SP's West Colton Yard. A long freight was traversing the balloon (local fans pointed out that the "balloon" is at West Colton and the "loop" is at Tehachapi), making quite a sight doubling back on itself—don't ask me to explain precisely *why* they use the balloon, for my memory of Greater L.A. geography is a bit fuzzy.

An outbound crew gathering at the shanty beneath the bridge was a tip-off of action to come, and our scanner was picking up talk from the LAHOT, the *L.A.-Houston Trailers,* a piggybacker with a colorful block of double-stack containers at the head end. We moved to the Santa Fe crossing at the old Colton Tower to catch his departure. Those double-stackers definitely look like tomorrow on the roll.

Then it was up to San Bernardino and a quick tag of the Santa Fe shop, including a couple of SD26s (rebuilt SD24s) and a whole flock of GP30/35/38s. There was even a GP35 in the "old" blue and yellow. Across the tracks was 4-8-4 3751 showing obvious signs of being worked on (May '82 R&R, page 60). A westbound UP freight with three SD40-2s (the middle one a C&NW) reminded us of the action to be had in the pass, and we headed north.

Things got off to a rousing start with four trains in the first half hour at Blue Cut: two SP downbounds, an upbound UP grain train and the downbound *Des-*

ert Wind. We worked the area between Cajon and Sullivan's Curve for a trio of Santa Fe downbounds, three caboose hops uphill and another downbound. The movement of track machinery produced a mid-afternoon lull, until four more Santa Fe freights, an SP upbound and the eastbound *Desert Wind* stirred things up after 3:00 o'clock. As the light began to fade, we caught a six-unit Santa Fe light engine move uphill and then paced a four-unit freight led by a pair of SD45s back into San Bernardino.

We'd been warned that "dead Monday" wasn't a particularly good day on Cajon, but this one had yielded 20 trains between 10:50 a.m. and 5:30 p.m. (A week later, the first UP Centennials showed up on Cajon.) After dinner in Hollywood with contributor Dave Lustig, John Sistrunk headed home for Vandenberg AFB, and Craig and I got a downtown motel for the night.

CRAIG WILLETT looks out across the surf as the *Coast Starlight* heads north near Gaviota. Dutch doors are better for photos than the Superliner lounge.

The *Coast Starlight*

It was warm and sunny as we boarded the *Coast Starlight* at LAUPT. Our "generic Western passenger train" had F40s 284/240 back-to-back with a pair of baggage cars and an ex-AT&SF coach dorm, followed by a Superliner consist of a coach-baggage, two coaches, a diner, a lounge and two sleepers. The only notable car was the second baggage, 1171, the former-CB&Q/CZ *Silver Coyote.* We had upstairs economy bedrooms 1 and 2 (middle of the car; nice work, Homer) in 32004, the last car of the train.

We rolled out of L.A. right on time, passing part of an SP executive train with office cars and a freshly-scrubbed SDP45 near the station throat. There were lines upon lines of dead diesels—mostly U-boats—at Taylor and lots of "Cadillacs" working the yard jobs.

We were in the greenhouse-like Superliner lounge for the climb through the Chatsworth Rocks. As we hit the first tunnel, a couple of kids ran up to the window and exclaimed, "Oooooh, it's dark. Can you see the moon? Can you see the moon?"

Gliding up the Simi Valley amid lettuce fields and orange groves, we spotted some beautiful haciendas perched atop a mountain ridge. "Those must be rough to get up to in the winter when the roads are icy."

Noting the 75° February day outside, Craig replied, "This *is* the winter, you dummy."

There was too much surf and scenery to wait for a spot in the crowded diner, so we had lunch in the lounge of a microwave cheeseburger and tuna salad sandwich—both quite good. In spite of the immense glass area, taking pictures from inside the Superliner lounge is a less than satisfying affair (because of the heavy tinting and the thickness of the posts between the panes), and we found the Dutch doors on the coaches and sleepers to be much more worthwhile, although the practice is frowned upon and you'll probably get chased out if a crew member spots you. There's some beautiful running along the coastline, however, and the kind of scenery that made the *Coast Daylight* famous is still there for the Amtrak passenger.

The SP passes right through the heart of the missile complex at Vandenberg Air Force Base, the biggest spaceport on the West Coast. We saw lots of launch pads and hangars but no rockets—though a military diesel was idling alongside the SP main. Captain Sistrunk had his wife and family out to wave at us as we passed through.

We had picked up an overcast, and the air had gotten chilly by the time we reached San Luis Obispo. Our summer in February was gone for good. The long stop at San Luis gave us time to get photos of the front of our train, before the assault on Cuesta Grade. The climb over Santa Margarita Pass is steep and dramatic with the single-track line making a severe horseshoe loop and threading up the mountainsides.

At the top of the pass we met a southbound freight with an SD45 and three SD45T-2s and five SD39 mid-train helpers. I had heard that there wasn't much freight traffic on the Coast Line, but during daylight we encountered a northbound just below San Luis, the southbound *Coast Starlight,* the freight at Cuesta, a work train and local at Santa Margarita and two southbounds near Salinas.

PHOTOGRAPHY J.M BOYD

We had dinner just below San Jose. The "Boneless Breast of Chicken, Southern Style," was okay, but the breading was too doughy and somebody got overly enthusiastic with the paprika. The apple pie à la mode was good, but the ice cream—as with virtually every meal—was deep frozen into an impenetrable rock.

Oakland is an interesting city to enter by train, as the SP from the south skirts along San Francisco Bay and then drives right up the middle of town with street runing through Jack London Square. The long stop at 16th Street Station permitted a night photo of our train alongside the depot with its abandoned umbrella sheds still intact on the old SP Interurban Electric Railway suburban platforms overhead.

On the SP, any train headed toward San Francisco is westbound, and any train headed away is eastbound. Thus, Amtrak No. 13 became No. 14 at Oakland—although public timetables list the *Coast Starlight* as No. 14 all the way from L.A. to Seattle.

We rolled on into the night, taking in the sights ranging from the glow of San Francisco across the water to the BART yard at Richmond and the oil refineries and industrial glitter up to the massive Carquinez Bridge. Knowing we'd be chasing 4-8-4 4449 and her *Daylight* train through here in three months, we were doing what we could in the dark to spot potential photo locations.

The run through Davis and Sacramento was uneventful, and I was sound asleep shortly after leaving Roseville. I awoke sometime later, aware that we were moving slowly. The downstairs area was empty, and I opened up the

Dutch door. We were just passing beneath an old highway arch bridge, and I recognized that we were in the Sacramento River Canyon a few miles below Dunsmuir.

The quarter moon was up, and the ridges were sharply defined against the night sky. The headlight of the F40s punched a detailed hole of color in the black of the canyon, and it was reflected the length of the stainless train—a parade of green brake indicator lights highlighting the consist. The train rolled quietly, and you could hear the tumbling water of the river and the muffled roar of the EMDs.

The scene was so enthralling that I stayed there the rest of the way into Dunsmuir. The atmosphere of its engine terminal and memory of its now-demolished old depot makes Dunsmuir one of my favorite places. I made myself scarce during the crew change and then took up my place at the right side Dutch door as we left town.

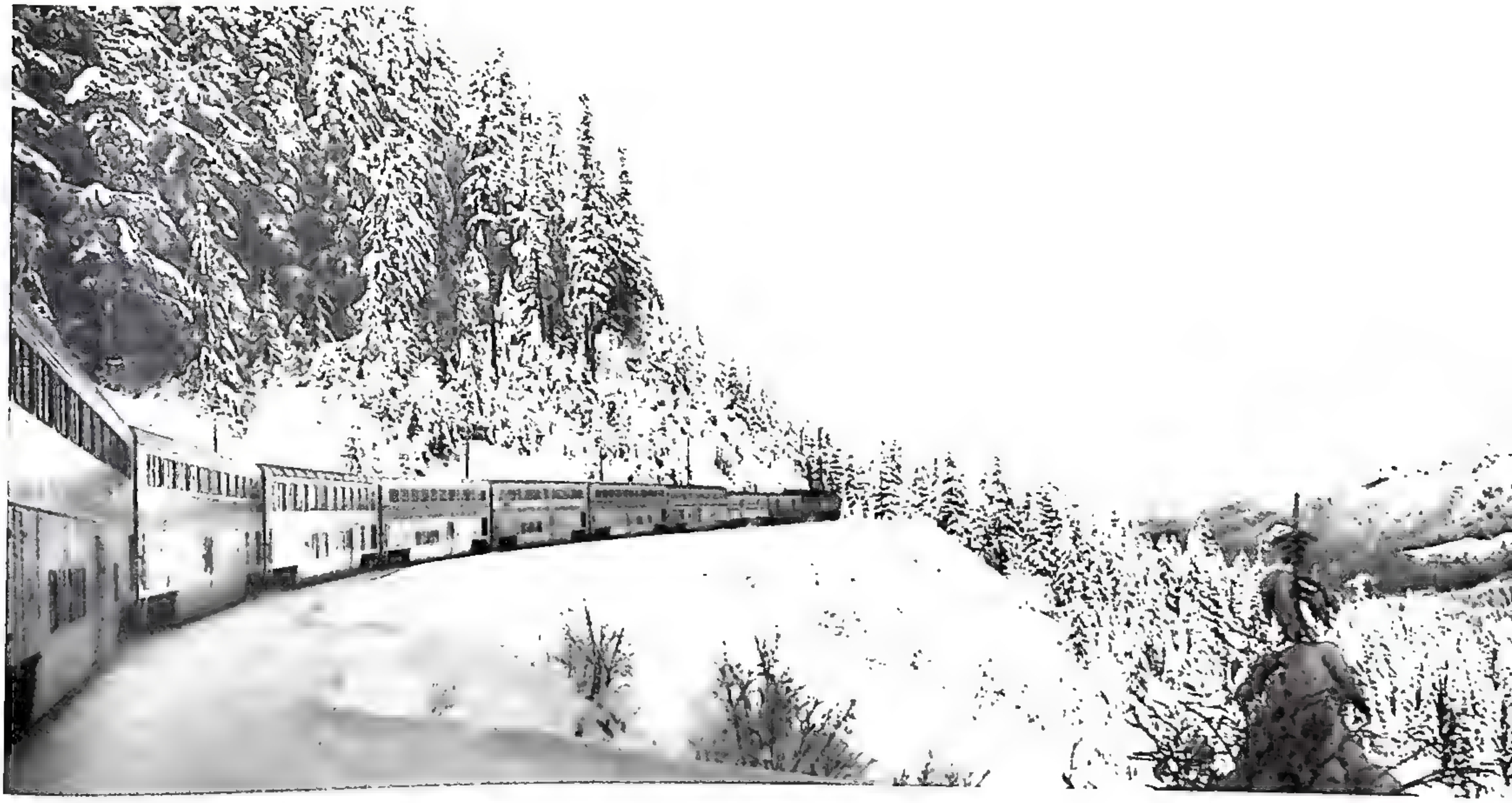
On the north edge of Dunsmuir I got my first good look at Mount Shasta, a perfect white profile cut out of a velvet black sky. It was breathtaking.

We traversed Cantara Loop and emerged from the canyon at Azalea. A meet with a freight held us for a few minutes at Upton, with a perfect view of the mountain, now awesome in the moonlight. I studied its snow-covered form in detail, creating a memory more enduring than any photograph.

I went back to bed for what was left of the night and awoke at first light in Klamath Falls. As we rolled along the shore of the frozen Upper Klamath Lake, Mt. Shasta was clearly visible nearly 100 miles away in the morning sun.

We interrupted our breakfast (ham and eggs plus oatmeal, very good) for Dutch door shots of Crescent Lake in bright sunshine and fresh snow. The next hour was the most spectacular of the entire trip, as we crested the Cascades and watched from a Dutch door as our train glided almost soundlessly through the deeply snow-covered landscape. The pine forest was draped in about six inches of new overnight snow. Curves and loops and snowsheds and tunnels punctuated the spectacular drop down the north slope with vista after vista of Christmas-card-perfect mountain snow scenes.

From this kind of winter I would need no escape.



THE *COAST STARLIGHT* broke into a Christmas-card perfect snow scene atop the Cascades. About twelve hours earlier it had made a long stop (top) at Oakland—note former-interurban trainsheds.

As we looped our way ever downward, the snow began to thin, and by the time we reached Oakridge—about 3600 feet below and 44 miles from Cascade Summit—the ground was bare and clouds began to blanket the area. We got our last moments of sunshine at Lookout Point Reservoir before plunging beneath the dense overcast that covered the Willamette Valley.

All we could say was that the Rio Grande would have to go some to top the show the SP gave us in the Cascades.

During lunch somewhere north of Eugene, we talked with Amtrak Crew Chief Jerry Griffo—the crew chief is a relatively new Amtrak position, and his job is to supervise all on-board Amtrak personnel (though not the railroad-employed operating train crew). He told us that the typical patronage on the *Coast Starlight* was about 200 people. The crew figured on serving about 60-to-70% of them for breakfast and about 60% for dinner in the diner. Of the 150 on board our train, 115 were served breakfast—the rest probably snacking from the lounge car.

Throughout our trip we found the crew chiefs to be friendly and very helpful. They were quite responsive in getting the rear door window cleaned off in our "observation car," for example, but don't ask them for permission to ride the Dutch doors, for they can't do that.

We spent the last few miles into Portland in the lounge car. The Superliner lounges have outward-facing seats throughout the entire glass-enclosed upper level. Downstairs in the middle of the car is the snack bar with a few tables and a small lounge—the area can be either neat or hopelessly cluttered, depending on the temperment of the snack bar attendant. Upon using the rest room downstairs, I discovered the air thick with evidence that the previous occupant had been "smokin' a J" in the men's room.

We detrained into a cold rain at Portland and were met by Dick Yager of the 4449 crew. Heading a couple miles north of downtown, we got a photo of our *Starlight* departing Portland. We also got a look at the "other" Portland Terminal, with its line of dead blue Alcos. Only one T6 was running, as the PT's owners (SP, UP and BN) are now supplying switchers for the PT jobs. The next couple of days were spent with Dick, Doyle McCormack and the 4449 crew in the Brooklyn Roundhouse (September '84 R&R, page 50).

The *Pioneer*

The weather was oppressive for our entire stay in Portland. We departed at 10:45 a.m. on Friday, February 24, aboard Amtrak No. 26, the *Pioneer* for Chicago (our train would be combined with the *California Zephyr* from San Francisco and the *Desert Wind* from L.A. at Salt Lake City the following morning). Twenty-six was a condensed version of Craig's generic train. F40 329 headed our only 100% Superliner consist of the trip: a coach-baggage, diner, coach and sleeper.

The Union Pacific line on the south bank of the Columbia is a beautiful piece of railroad, but the gloomy weather took the edge off of it. We had a little excitement on the way out of Portland watching for a "bomb train" that was being reported by the local news media. We met the nuke train at Dobson with UP SDs and cars looking like white covered hoppers that flashed by our windows. It was reportedly transporting nuclear warheads for the submarines at Bremerton, Washington.

The passenger speed on UP's Oregon Division is 70 m.p.h., but for most of the running along the Columbia, curves keep the limits between 40 and 60. East of The Dalles, we spotted four BN trains on the old SP&S main line across the river before encountering our first UP freight at Arlington (two SD40s bracketing a GE). We met the westbound *Pioneer*—with a UP office car on the rear—at Heppner Junction. We were riding our "observation car," sitting in unoccupied economy bedroom 9 next to the rear door window.

Using the scanner, we were able to identify much of the traffic, including the OMN *(Overland Mail North)* with five SD40-2s at Boardman. Craig and John Gieske had ridden Centennial diesels on this line back in 1979 (March 1981 R&R), and we were keeping a sharp eye out for them now. At Hinkle we saw lots of six-motor EMDs and GEs, but no Centennials.

The single track line over the Blue Mountains has CTC, numerous sidings and lots of freight action. We had a sawby meet with three SD40-2s at Homly and overtook a heavy freight with three mid-train SD40-2 helpers and two UP and two SP SDs on the point at Bonifer. Someone on the public address system was pointing out a herd of elk on the hillside, but we were more interested in the three SDs and a big GE westbound at Duncan with a WP caboose.

The snow gauge at Kamela registered a foot and a half, and the overcast was bringing an early dusk. But the mere *possibility* of seeing a Centennial kept us much more alert than we would have been otherwise—no afternoon nap today.

The first and second PFEs were in the hole for us at Crooks, the first having three SD40-2s and the second two UP SD40-2s and a C&NW GP50. By the time we got to Baker it was too dark to see much outside, and we retired to the diner for dinner.

I went for the steak, and it was the best yet. Steward Ray Wakeman showed us the downstairs kitchen after our meal, as Chef David Kirby was preparing more dinners. The Superliner kitchens are huge by railroad standards, and all the meal service personnel we talked to were almost apologetic

THE *PIONEER* rolled eastward along the Columbia in grubby weather. After dinner in the Superliner diner, we were given a tour of the lower level kitchen where Chef Kirby was preparing a steak.

for not being able to provide more creative and personalized fare with the facilities they have available. The food is all prepared downstairs and sent up to the dining level on a dumb waiter.

With no lounge car on the train, they were utilizing half of the diner as a lounge, and we stayed there for quite a while after dinner. (Amtrak is presently converting six ex-AT&SF *El Cap* high level diners into proper diner-lounges for just such trains as the *Pioneer.*)

We headed back to our sleeper and were greeted by our car attendant, Mayme James. Noting an embroidered rose attached to her name badge, Craig said, "You must know Boots." She was delighted that someone boarding at Portland would recognize the trademark of Milwaukee Road engineer Ted LeBoutellier, who works the *Empire Builder* between Minneapolis and La-Crosse. He grows hybrid roses as a hobby and hands out those little embroidered roses to his friends and coworkers.

For the Portland-Chicago segment of our journey, Craig and I had decided to sample Amtrak's finest accommodation, the deluxe bedroom. The deluxe is more roomy than an economy bedroom and it provides two beds, a washbasin, toilet and shower—the last two of which are one. The cost was $329 for double occupancy, compared to an economy for two at $114 (a single-occupancy economy at that time was $99, but Amtrak has since made the economy bedroom fares the same for single or double occupancy).

The shower in a Superliner bedroom is a plastic closet containing the molded-in toilet and a shower head on a flexible hose. You just want to be sure and do your sit-down business before you shower, or things can get rather wet and messy. One built-in hazard is the pair of identical and adjacent push-buttons—one flushes the toilet and the other turns on the shower. Every Amtrak traveler has heard the story of the businessman in the three-piece suit who went to the bathroom just before detraining and got the wrong button when flushing the pot. After seeing the configuration of the shower, I fully believe the story.

The berths in a deluxe bedroom are crosswise to the car, with the top one being a bit narrow and the bottom one being rather wide. I volunteered to take the upper berth just to prove that a person of ample proportions could do it. Getting into bed was rather crowded and tricky, but once stretched out I was quite comfortable. The only problem of this night was a rather bumpy ride.

The *California Zephyr*

It was a cold and gray dawn as we arrived on time into Salt Lake City. But of the three trains that were to combine there, we—the last scheduled to arrive—were the first and only one on the scene and were held out because there are only two useable tracks in the UP station. This was of minor inconvenience to the through passengers, but those folks bound for Salt Lake City were forced to wait for over an hour *within sight of their destination* before being permitted to detrain. It was the only inexcusable "typically railroad" stunt of our entire trip. (Although the Rio Grande depot in Salt Lake City is no longer available for use as a railroad station, Amtrak is considering converting an adjacent building into a new smaller depot while taking advantage of the greater track capacity in the platform area—this would prevent the inconvenience of being held out on the UP as we were.)

Radio chatter revealed that the *Desert Wind* had seven cars and was the next to show up, followed shortly by the *California Zephyr.* While we waited, those two trains were combined at the depot. Once the extra equipment was moved out of the way, we were permitted into the station. (Passing by the shops, we finally saw a couple of Centennials, 6904 and 6942, along with WP GP35 3001 and Sulzer-powered UP SD45 65.)

Our sleeper and rear coach were cut off by a UP "Horrible Heffalump" rebuilt switcher, 1214, and tacked onto the end of the combined *Zephyr-Desert Wind,* resulting in a 13-car train behind the two F40s that had brought in the *Zephyr.* The rear sleeper on the *Desert Wind* was the *George M. Pullman,* the last Superliner to be delivered and the last passenger car to be manufactured by the Pullman Car Works at Pullman, Illinois, on May 22, 1981 (*Trains'* David P. Morgan suggested the naming, creating one true conversation piece in a fleet of 284 Superliner monoliths). For the rest of our trip, however, we would remember the *George M. Pullman* as the Superliner with the *slowest* air-operated doors of any car we encountered.

Outbound from Salt Lake City, an hour and seven minutes late, we had an excellent omelet and ham breakfast while watching the local sights glide past the window—Baldwin switchers at the Provo steel mill, a WP GP35 working a UP mill job and a couple of D&RGW freights. We were back to the Dutch door in our sleeper for a look at "Lake Thistle" and the new tunnels. The mudslide that created the lake which wiped out the town of Thistle on April 14, 1983, is still very much in evi-

UP SWITCHER 1214 put the *Pioneer's* two rear cars onto the CZ (at right) at Salt Lake City.

dence, though the lake appears to have been drained.

The climb over Soldier Summit was fascinating, as I'd never before ridden it and had only seen it from the highway below. The clouds began to break up on the east side of the summit, permitting a few bright Dutch door photos of our train in the snow-covered mountains and passing landmarks like Castle Gate. We glimpsed an orange and white Geep in a coal mine at Helper but saw no motive power of any kind on the Utah Railway.

The weather gloomed over again just east of Helper, so I returned to our sleeper. Noting that there was a late cancellation, car attendant Mayme James suggested that we swap to unoccupied bedroom E, the best room in the house (of the deluxe bedrooms, A is smaller than the rest due to the positioning of the shower, and A and B are over the truck; E is in the center of the car and most desirable).

With everything moved over, I decided to sample the ultimate in Amluxury: the shower. Pushing the button gives you a 15-second squirt of water (so that no one leaves the limited supply of water running), and taking an Amshower involves a lot of button pushing and manipulation of the hand-held shower head. I had only one problem. There was only very cold water.

Mayme tried to fix the temperature regulating valve, but it was apparently broken. Since she wouldn't have anyone in our recently vacated room B, she told us to use the shower in there, which was working just fine.

The dreary weather combined with the barren winter landscape of the Utah desert to produce a potentially depressing day. The mood was relieved when the public address system came alive with the announcement, "Ladies and gentlemen, if you'll look out either side of the train you'll see absolutely nothing—that's 'cause there's *nothing* out there."

We were at the mercy of "Jaws," D&RGW Salt Lake City brakeman Steve Creer, who broke the monotony with descriptions of various lineside landmarks. The "scenery" for us was an occasional D&RGW freight, with motive power generally consisting of SD40T-2s and a mix of SD45s, GP40s, GP35s and even GP30s.

We had a "Zephyrburger" for lunch, which was rather good, and signed up for the raffle of a free dinner.

Grand Junction is a ghost of its former glory with a tiny Amshack and a chain link fence between the old depot and the platform. With a quick stop, we were only 40 minutes late departing. A ratty-looking home-chopped SD9 was working the hump yard, and a short while later we met a coal train with a GP40 and two GP30s. We met the westbound CZ with F40s 354/372 and 13 cars at Debeque, a westbound with five units at Lacy and the Ford train with two D&RGW and two ex-Conrail GP40s at Chacra.

Glenwood Springs was its attractively timeless self, and the long station stop permitted some photos of the *George M. Pullman* "in context." The overhead windows in the lounge paid for themselves in the vertical slash of Glenwood Canyon—again, the view from a short dome is much better (and what better place than this canyon, where the dome was born, to observe that the Superliner lounge, like the 55-m.p.h. speed limit, shows just how much "progress" we've made since the 1950s.

The miserable weather rendered the Rio Grande's famous scenery a featureless gray, and darkness robbed us of the spleandors of Gore Canyon, Moffat Tunnel and the Front Range—I would definitely recommend this train westbound over eastbound in the winter, when the short days crowd the scenery out of the timetable.

We were in the lounge watching darkness snuff out the canyons when the p.a. system announced, "Ladies and gentlemen, we have a winner in our drawing for a free dinner in the dining car: Mr. Jim Boyd." Well, how about that! We'd just begun our steaks when the train entered Moffat Tunnel, and it was like eating dinner on a luxurious subway.

In spite of the bitter cold, we did spend a few minutes in the Dutch door dropping down the Front Range, with the windows glowing from within and the stainless flanks gleaming with reflections from the headlight and the brake indicator lights. It was blowing snow rather than cold that drove us back inside.

As we arrived in Denver 30 minutes late, they were forecasting a winter storm, and highway traffic was already visibly slowing under six to eight inches of new snow. This would be a good night to be on a train.

We detrained for a few minutes to meet railfan friend Steve King from Chicago, who happened to be in Denver on business. We chatted and walked the train in the blowing snow. On a siding at one end of the platform, someone was holding a candlelight dinner in the private car *Otto Kuhler*—an inviting sight in the storm.

We stayed exactly 47 minutes behind schedule all night from Denver to Omaha, and the old CB&Q main line certainly didn't stack up to the Santa Fe for speed or smoothness. The weather remained stormy, and all we had to look forward to was a long ride.

A tragic bit of drama had occurred during the night. An elderly man, whom we had seen many times in the diner and lounge since Portland, had gotten up from his economy bedroom in the middle of the night and mumbled to someone, "I've got to make a phone call." A short while later one of the vestibule doors was found open. A freight crew had spotted his body on the tracks

AMTRAK IS CAPABLE of creating some timeless images that reflect strongly of the Streamliner Era. The *California Zephyr* still stops at Glenwood Springs (left), with the last Superliner, *George M. Pullman*, standing in for Budd domes, and the platforms of Chicago's Union Station (above) have seen only a change in equipment from the days of the Q's *California Zephyr*—those pillars still obstruct the traveler loaded with luggage.

in the morning near McCook, Nebraska. He'd apparently become disoriented, managed to get the door open and just stepped out into the night at 70 m.p.h.

It was now Sunday morning, and winter had Iowa and Illinois firmly in its grip. We encountered little freight traffic and only glimpsed a few units in the engine terminal at Galesburg. A stylish but modest new depot has replaced the grand old monster at Galesburg, and the CB&Q 4-6-4 at the east end of the platform looks strangely alone, though well maintained.

On the home stretch speedway, we looked down at the highway on which Craig and I had chased 4-8-4 5632 on numerous occasions between Galesburg and Altona. Our favorite spot at Wyanet where the CB&Q crossed over the Rock Island now has the BN over the Iowa Railroad. And the IC/Milwaukee tower at Mendota is now a patch of gravel.

Thin sunlight was penetrating the razz as we clicked off the familiar Illinois miles. We paused beside a pair of BN commuter E9s at Aurora, one of which was the 9910, bearing the name *Edwin E. Putz*. We were an hour late out of Aurora, but I was so anxious to get off that dreary gray train that I didn't even make note of our arrival time in Chicago. One of Sandy Willett's home-cooked meals and a bed that didn't "rumble" was all I had on my mind.

The winter storm that we'd almost outrun caught up with us again overnight, and Monday, February 27, was another grubby day. A good night's sleep in the Willetts' guest room improved my outlook considerably, however. I used Craig's car for some northwest suburban railfanning and encountered three SP SD40T-2s and four UP SD40-2s at Bensenville on the Milwaukee, along with the Milwaukee SD40-2 144 in the new Hiawatha scheme. Proviso yielded SD45s in Conrail blue and BN green wearing C&NW heralds. I even got in some Alco action by chasing a pair of Belt Railway of Chicago C424s on a transfer. In midafternoon I left Craig's car at the Franklin Park depot and took a Milwaukee commuter train to Union Station.

The *Capitol Limited*

Craig accompanied me to the gate on the old Pennsy side of Union Station to board Amtrak 40/440, the combined *Broadway Limited* and *Capitol Limited*. The train was 15 cars long, and the Washington sleeper was near the front. I had roomette 2 in Amtrak 2882, the former-UP 10/6 sleeper *Pacific Trail*, built by Budd in 1950. After stowing my gear, I walked the train.

F40s 312/373 (back-to-back) were tied onto two ex-AT&SF baggage cars of New York mail, a rebuilt Army kitchen car of Washington mail, and the ex-CB&Q/*Nebraska Zephyr* "*Olympus*" with the Washington baggage. The two Amcoaches and my sleeper were next, completing the *Capitol* portion of the consist. The *Broadway* cars began with slumbercoach 2081, built in 1959 as the B&O *Sleepland* and sold to the NP in 1964, becoming its *Loch Long*. Then came the 10/6 sleeper *Beech Grove* (an appropriate Amtrak-applied name for ex-SP 9014, built for the 1950 *Sunset Limited*), an ex-NYC diner, an ex-AT&SF cafeteria-lounge, three Amcoaches and an ex-Army hospital car for the dorm and New York baggage.

Where's the dome?

My whole purpose for going home via Washington and the B&O was to ride the dome. Where's the damned dome?

In Pittsburgh.

It seems that yesterday's westbound *Capitol* had gotten caught behind a derailment on the B&O near Connellsville, and the passengers were bussed to Pittsburgh to join the *Broadway*. The dome would be waiting for us along with the Pittsburgh-Washington Amcafe.

We were held 35 minutes for a connection with the *California Zephyr*, which was arriving an hour and 20 minutes late, and got our highball at 5:25. Once clear of the city, I headed for the diner. The track out through Hammond, Indiana, was rough, but the pork loin dinner was quite good.

That storm was intensifying off the tip of Lake Michigan, and Indiana and Ohio looked like a winterscape out of "Dr. Zhivago." There was signal trouble around Delphos and Lima, and we fell over two hours late. I was struck by the contrast of F40s with strobes passing yellow Pennsy position light signals in the night—yeah, F40s; what those little suckers need is a Mars light!

A roomette is only slightly larger than a slumbercoach, but the bed swings down in one piece. It swings down, however, right on top of the toilet, and if you need to use that facility in the middle of the night you have to secure any loose objects on the bed and swing it up like a bascule bridge to get to the potty. The slumbercoach does not have this problem, and it's a lot cheaper ($31.50 New York to Chicago compared with $84 in a roomette from Chicago to Washington). But then, there's no slumbercoach to Washington. On the other hand, there's no dome to New York.

I was awake as we arrived in Pittsburgh at 4:08 a.m., only 35 minutes late. The five Washington cars were cut out, and the *Broadway* departed with ten cars at 4:54 a.m. An Amcafe and dome had been coupled behind my sleeper, and the *Capitol Limited* followed a minute later with F40 279.

I headed back through the Amcafe for the dome but was stopped by the crew chief. "Where are you going?"

"To the dome."

"It's up front."

"No it isn't, it's behind the diner."

"No, it's up front."

He obviously hadn't looked at the train. Normally, the dome arrives from Chicago at the front of the Washington consist, but because of the wreck it was just tacked on the end at Pittsburgh. He and the conductor finally decided that the car was deadheading and was not open to the public. We discovered that the dome had been sitting all day unheated in a freezing rain and the glass was encrusted with a thick coat of ice.

The icy rain continued as I watched the familiar sights of the B&O from my roomette—window on the right side only, though. We went up the "short way" at Confluence, and I could see the sad remains of the Western Maryland in many places along the route. We effortlessly topped Sand Patch at moderate speed, and the ride was smooth.

After breakfast, the crew chief noted that the dome was now warm and the ice had thawed off. A new conductor had come on at Cumberland, and though the car wasn't officially open, he'd let anyone who asked ride the dome since there was a deadhead crew riding back there (the car was not in service because the coach attendant who normally cares for the car was in the

the book

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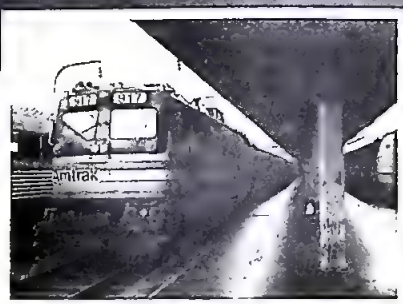

THE *CAPITOL LIMITED*, with its deadheading dome on the rear, terminated in Washington Union Station, as a Washington Terminal RS1 worked an adjacent track. The last leg of the journey was on No. 174, the *Minuteman* (right), with five Amfleet cars behind AEM7 917—it was a business-as-usual ride at 120 m.p.h. Well done, Amtrak.

Amcoaches at the other end of the train).

During my days with EMD I'd put in a lot of time on the B&O, but watching those color position light signals from a Budd short dome was a new experience. From the dome, our *Capitol Limited* was an odd-looking little train, with the full-shouldered profiles of the dome, sleeper and baggage cars jutting out from the diminutive Amtubes. Of course, the B&O has something we didn't have on the Burlington: tunnels. And those are fun from a dome. Even on the B&O and in the rain, the view over that familiar fluted roof with its two dominant ribs was like going home again—the *Appalachian Zephyr.*

Freight traffic was modest and powered by the expected Chessie chopped-nose Geeps with one or two old B&O blues cropping up here and there.

We were only ten minutes late into D.C., making my connection to No. 174, the *Minuteman*, an easy 35 minutes. AEM7 917 led an Amcafe and four high-capacity Amcoaches, and the run up the Corridor was on-time perfection at 120 m.p.h. Now that Amtrak is in control, the track is superbly maintained and the equipment is clean and functional. It was a Tuesday afternoon, and the passengers reflected the business atmosphere of the metropolitan area.

My journey came to an end at 3:28 p.m., February 28, 1984—on time to the minute. I had covered 8089 miles in 14 days for a fare of $735, which works out to eleven cents a mile.

I now look at Amtrak in a different light. My previous experiences had been largely negative, and I considered Amtrak an aberration—they weren't "real" trains. I know now that they *are* real trains—they still have many problems, but so did the Santa Fe and IC and Burlington and all the others. With steam-heated equipment, the cars were always too hot or too cold. My clearest memory of sleeping on a train in the past was a *Broadway* roomette where I went to sleep dripping with sweat and awoke with ice on the inside of the window. No such problems on this trip (overlooking one cold shower), as the individual thermostats in each room really do work.

The trains ran reasonably on time for winter, and the F40s performed flawlessly. After you've spent two days at 80 m.p.h. on the Santa Fe, watched the Pacific surf and the Cascades from a Superliner and been sped home at a work-a-day 120 m.p.h., you'll never dismiss Amtrak lightly again.

BY JIM BOYD

JAY WILLIAMS

AMERICAN COAL ENTERPRISES' 614T wrapped up its month of testing on the C&O by hauling Amtrak's eastbound *Cardinal* between Huntington and Hinton on January 30, shown here at Barboursville, W.Va.—that night she made the TV news on all the networks. Adding and removing the steam engine and heavy passenger loading only delayed the *Cardinal* an hour at Hinton. During the entire month of January, the 614T never missed a trip in spite of six-day-a-week duty and severe winter weather. She returned to the WM roundhouse at Hagerstown on February 3.

ACE and the 614

Writing about the January tests of the 614 on the C&O (page 34) was a perplexing task, for it was an experience on two different levels. The first was the obvious "railfan" encounter with a 4-8-4 working regular coal trains on its home railroad in 1985—all billowing exhaust, thundering sound and the image of laden hoppers rolling past the brick storefronts and frame depot at Thurmond. But it was also the first tangible step in the development of what may be a future coal-burning locomotive, the ACE 3000.

It is easy to be skeptical of the ACE project, and I suspect that most railfans simply can't believe that it will really happen. It would be hard to shake a twinge of guilt at watching Rowland spend his money putting on such a grand show of working steam if you felt that the whole project was all show and no substance.

Having had considerable first-hand experience in today's railroading with diesel locomotives, I have the credentials to be an informed skeptic. The whole thing sounds too good to be true. We know that the FT vanquished the 4-8-4 in 1944, and nothing can turn history around. The diesel has an inherent advantage over steam in its tractive effort curve—it begins moving with infinite power, while a reciprocating running gear begins at zero. Just watch a diesel move a heavy train in the second or third throttle position, if you need proof of the physics book. I've seen it, I've worked with it, and I know it.

Now these folks are coming along and betting millions of dollars that a computer can rewrite that physics book and make the reciprocating steam locomotive competitive with today's—no, *tomorrow's*—diesels. It is easy to be skeptical.

However, one thing has been universally true about the ACE project. For every skeptic's question we've been able to raise, the ACE people have always had a good answer. Nobody's been able to catch them by surprise with some technical detail. For instance, when asked about turning worn flanges on a rod-connected driver, ACE knew that it could be done on only one brand of wheel lathe. "There are only three in existence," replied our skeptic. "Yes, but there are over 20 on order that will be in service by the time we're ready to run," replied ACE.

On my two visits to the 614 in January, I was accompanied by railfans who are also mechanical engineers (Greg Nazarow on the first trip, and Max Robin on the second). They were skeptical and loaded with questions. After talking to the ACE people, both were sufficiently convinced that the project would work that they were asking how to apply for a job with ACE.

Finding Dante Porta and David Wardale on hand in Huntington and knowing of their practical experience within the past few years with the South African "Red Devil" 4-8-4 made the purpose for the 614 tests more understandable. This was particularly true after it was announced at the dedication ceremonies on Janury 2 that the initial prototype would not be the ultimate ACE 3000 that has been pictured in the past but a more conventional "Mark I" that would bring the traditional steam locomotive up to date with modern metallurgy and computer technol-

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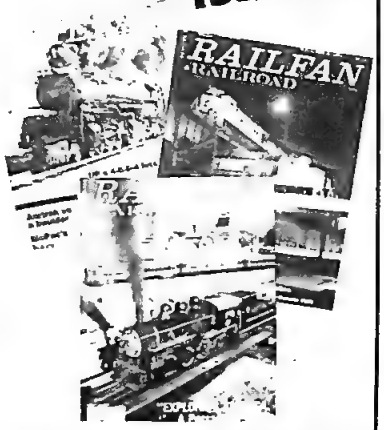

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NOT ON THE WHEEL REPORT

By Joe Easley

"We wouldn't mind them using the tracks—if they would only stop trying to outrun us!"

ogy. As Dante Porta observed, "With the Red Devil we proved beyond a shadow of a doubt that the steam locomotive had nowhere near reached its development potential when it was abandoned in 1948."

A little skepticism is healthy. Only time will tell if Rowland and the ACE team are right or wrong. There is no doubting, however, that these are extremely intelligent and worldly individuals, and to dismiss them as sentimental fools would be a grave error. Hamilton, Dilworth and Kettering must have appeared equally far-feteched in 1936 when they put their fragile box-cab diesel up against the Santa Fe's finest 4-8-4s.

That was a different war, and the diesel won because it was a clean, automatic machine with unheard-of availability and tremendous power at low speed. Maybe today a steam locomotive that resolves those advantages can triumph through a six-to-one fuel cost advantage.

Back in the 1960s, we Americans were popping with pride when the French railways killed the fires on its efficient-but-tempermental Chapelon compounds while continuing to run U.S.-built World War I technology in the form of rugged little 141R Mikados. The diesel defeated our big and brawling coal-hungry monsters, but in the 1980s, maybe Chapelon and his disciples will have the last laugh yet. It's all a matter of

JIM BOYD

THE 614T'S TENDER bears the corporate logos of Foster Wheeler, ACE and Chessie, at Hinton on January 22 in sub-zero cold.

high-tech efficiency and fuel costs.

Thanks to ACE and the 614 tests, hopefully the funds will be raised to take this discussion out of the typewriter and prove it in steam and steel in the New River Gorge. Rowland and company may be doing nothing more than reinventing the dinosaur, or they may be taking a big step toward making the U.S. energy-independent. One thing is for sure: After watching the 614 spend a month in coal-train service on the C&O main line, no one can doubt that ACE means business.

Graffiti on the tender

I didn't realize until I'd completed the full feature and MARKERS commentary on the ACE January tests that I'd completely forgotten to mention the relettering and renumbering of the 614. The ironic part is that under any other circumstances a railfan's first reaction would be to howl in protest at such desecration of a C&O 4-8-4, but in light of the 614's purpose, the fans seemed to accept the new lettering and number with little comment. Chasing the 614T was an exercise in 1985 railfanning, not "Good Old C&O" nostalgia. This was happening for now and tomorrow, not for the past, and the 614T was a legitimate entity, whatever its appearance.

Complete with a new cast front number plate, 614 was dedicated on January 2 as 614T—the "T" standing for "Test." The huge tender bore the corporate logos of the Chessie System, American Coal Enterprises and Foster Wheeler, in addition to an inscription across the coal boards reading, "WORKING TOGETHER TO BRING YOU ... THE ACE 3000, TOMORROW'S LOCOMOTIVE TODAY." There was also a small notation next to the cab, "PROUD TO BE BURNING COAL,"with an American flag between the words BURNING and COAL.

The right side of the locomotive was essentially unaltered, except for the "T" added to the cab number (614T on the cab and hyphenated 614-T on the cast front number plate), while the left side carried the gray and yellow wires for the computer sensors. The smokebox-top illuminated number boards were unaltered, but a small TV camera was mounted alongside the headlight.

The 614T's overall appearance was pure C&O Greenbrier, however, and as the tonnage, work schedule and weather conspired to keep the engine wiping crew otherwise occupied, she began to pick up a respectable coat of working road grime. The only place where the fans and the ACE people truly disagreed was in the cleanliness of the engine—the fans were delighted as the engine became more and more grimy, while Ross and Steve Wickersham would have preferred a clean machine for the benefit of the public and nonrailfan media.

At one point during the sub-zero week, Steve hollared out of the cab, "Is this dirty enough for you?" I grinned an affirmative reply and pointed out my new Ford with a similar layer of winter road grime. He just shook his head, "Boyd, you've got no class at all."

I won't argue that.

The m.u.s. at night

On page 65 of the March issue we blurbed "The Night Before the Arrows," a night photo study of the DL&W m.u.s., for this issue. As we were wrapping up that March issue, our May cover feature on the C&O testing of 4-8-4 614T had not yet happened, and we were overly conservative in the space we allotted to it. Well, the 614 turned out to be

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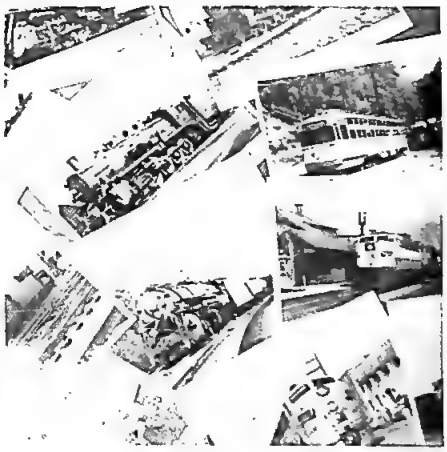

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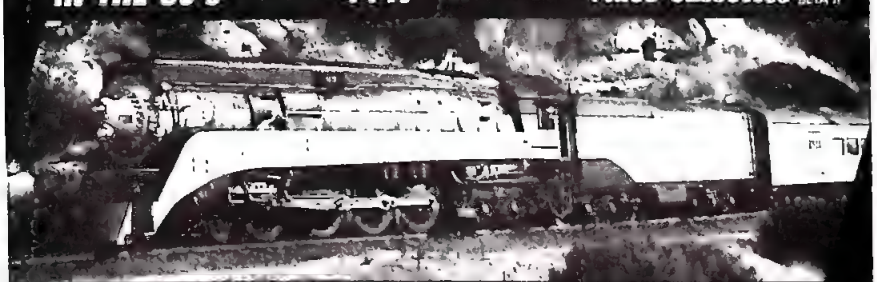

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one of the biggest news stories in recent months, and we had to make room for it, so at literally the last minute we decided to hold the m.u. feature until the July issue. It will be worth the wait.

Homer's phone number

We mentioned in the March issue that railfan travel agent Homer Hill had made the reservations for our "Escape from Winter" trip and recommended that other fans could use his expert services in securing accommodations on Amtrak or VIA. A typo, however, crept into his phone number on page 34 of that issue; it should be 201/766-0233. Homer notes that he has already received a number of requests, in spite of the wrong number.

Johnny Cash and 614T

In the second week of February we attended a Waylon Jennings and Johnny Cash concert at Radio City Music Hall in the heart of New York City. Of course, the beat of much of Waylon's music was strongly reminiscent of a hard-working 4-8-4 at speed, and Johnny Cash did a number of his famous railroad songs. Cash's encore was "Casey Jones," accompanied by film of Southern 4501 and 750 projected on a background screen.

When the applause died down and the audience began to file out, I overheard a young lady behind me comment to her husband, "I read in the *Wall Street Journal* last week that they're bringing back steam engines—just think, we'll have another 30 years of great train songs!"

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Short line CF7s

It all started in June 1984 when Andy Muller of the Blue Mountain & Reading bought ten Santa Fe CF7s and brought them to his road's terminal in Hamburg, Pa.—the BM&R operates a former-PRR branch from Reading to Hamburg. Keeping the 2424 as his own 424 (below, with ex-Erie NW2 413 on January 20, 1985 at Hamburg) he sold off the remaining nine to one asphalt plant and five short lines (see page 50 for roster).

The 2429 and 2444 went to the North Shore Railroad, which operates the ex-EL "Bloomsburg" line from Northumberland to Berwick, Pa. "NSHR" 2444 is shown on its first run (**right**) at Rupert, Pa., on August 20, 1984, with the old Reading bridge in the foreground. Its sister road, the Nittany & Bald Eagle got the 2427 (**below left** at Bellefonte, Pa., on August 19, 1984) to operate its ex-PRR lines from Tyrone to Milesburg and Lemont, Pa.

KODACHROME: SCOTT W COTNER

KODACHROME: JIM BOYD

Three CF7s went passenger-hauling. The Massachusetts Central got the 2443, shown (**below**) at Ware, Mass., on September 22, 1984, and the Black River & Western at Ringoes, N.J., got 2419 and 2421. The 2419 became the first CF7 to be *fully* painted anything other than Santa Fe (**bottom**) as BR&W 41, shown on December 8, 1984, with 42 in a partial repaint. Oh, yes, Andy has 14 more CF7s on the way.

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